

How Location Technologies Benefit Logistics Operations

Logistics operations are an important part of the supply chain. They are responsible for getting the right product to the right place at the right time. If they can't do that, they won't be successful. Customers don't buy from companies that can't fulfill their promises and expectations. In the past, logistics companies have used spreadsheets and barcode scanners to manage shipping processes, but technological advancements have been made to transform logistics operations.

How Location Technologies Work

Location technologies use a combination of hardware and software to determine a specific asset's location. There are a few technologies commonly used to track location.

GPS

GPS is a popular location technology that uses satellite communication to determine an asset's location. This well-known technology is seen frequently on cell phones and car navigation systems. While this technology provides accurate location data, it's incredibly power-hungry. GPS also has a slow communication process since it has to communicate with more than one satellite to determine location. Depending on how strong the signal strength is in the area of use, GPS can eat up the battery life in under an hour. Using GPS combined with other technologies like cellular and WiFi can help lengthen the battery life so your system lasts longer.

WiFi Sniffing

Don't be alarmed when you hear the WiFi is being used to determine a location. When it comes to WiFi sniffing, the device doesn't connect to any WiFi networks; instead, it scans the environment for nearby access points and uses those to determine an approximate location. The device will provide the location of the access point closest to the device. For example, if a pallet on a trailer is being tracked, the device on the pallet will provide the location of the nearest WiFi network. With this technology, accuracy isn't always going to be the most precise, but it does get you close enough to find the asset you're looking for. WiFi sniffing uses minimal battery life, lasting significantly longer than a GPS device.

Cellular

Using cellular to determine location means minimal battery consumption with about a quarter mile of accuracy. When reliant on cellular to determine the location, the device will scan for the nearest cell towers and use triangulation to determine location. Setting up geofences is also a great way to utilize cellular to determine location. A geofence can be set up around facilities so alerts will go off if the device enters or leaves the established zone.



Combining Technologies

Our AirFinder Everywhere solution combines the usage of GPS, WiFi Sniffing, and Cellular technologies on a single device. The device's battery won't be drained as quickly as GPS alone, but the higher accuracy is maintained. Each user can determine which technology is primarily used and which are used as backups.

Location Technologies Used for Asset Tracking

Asset tracking is a component of asset visibility, enabling companies to always know where their assets are. It has typically been done manually, but now, thanks to new technology, these processes can be automated. Asset tracking technology provides complete, real-time visibility of the most important assets. For logistics operations, this can include shipping pallets and containers. Asset tags are attached to the pallet and can be seen in real time once connected.

Using a spreadsheet is one way companies have used to attempt to reduce the amount of loss they face. However, spreadsheets aren't the best way to keep track of assets; using spreadsheets means you have to rely on your employees to remember to fill out the sheet and trust they'll fill it out correctly every time. While your employees may be great at their job and

reliable people, forgetfulness and unintentional errors can happen.

Most companies have moved away from spreadsheet tracking and switched to something slightly more automated, barcode scanning. While the process of storing data is automated when using barcode scanners, the rest of the process – scanning the barcodes – still relies on employees. Also, when you're looking for a pallet, you only know the last known location. If it's been moved since the last time it was scanned, you still lack complete visibility and must spend time searching for the pallet.

An automated asset tracking system is the only way to eliminate human error and see your pallets at all times. Human error is eliminated because humans are not active participants in the tracking process. Even if a pallet is misplaced, you're not relying on the last known location of the pallet; instead, you can see the pallet's current location at the moment you're looking for it.

Ways Location Technologies Impacts Logistics Operations

Pallet Tracking

Returnable pallets shouldn't be replaced monthly. They shouldn't need to be replaced



until they are broken or unusable. Losing pallets causes unnecessary replacement costs for the company, delays distribution, and hurts the overall supply chain. Location technologies provide location information about these pallets so they don't get lost and have to be replaced.

Trailer Tracking

Telematics systems are required in every truck, but sometimes these systems fall short. Pairing an asset tracking system with a telematics system provides complete visibility of the truck and trailer. Non-powered assets are difficult to manage as they aren't connected to a power source that tracks location with telematics. Instead, asset tracking tracks the location of trailers no matter where they are located.



Loss Prevention

Losing assets is a challenge every company faces. Often, loss is caused by misplacement or miscommunication. But regardless of why you're struggling with loss, you need to find a way to reduce or eliminate it altogether. Automated asset tracking provides complete visibility of what matters during the most important moments.

Process Efficiency

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Compliance

The fastest way to ruin your company's image is to be negligent toward industry regulations. If you don't meet compliance requirements, your company will have to pay massive fines. A failure of compliance also contributes to a loss of public trust in your company. Asset tracking solutions give you full visibility so there's less room for negligence and you can ensure that compliance regulations are met.



Cold Chain Monitoring

Asset tracking solutions go above and beyond tracking the physical location of assets. Some tags have embedded sensors that monitor the temperature of your asset's environment. This feature is beneficial to companies shipping temperature-sensitive assets like food or medicine. The tags will alert you of a temperature change if anything goes wrong in the reefer trailer. With these alerts, any issues with the refrigerator system can be addressed before the food or medicine spoils.

Why Transforming the Logistics Industry is Necessary

The future of this industry rests in the hands of technology. Whether you like it or not, technology is the future in nearly every industry. Technology has unique capabilities that humans can't do on their own. Technological innovation improves the way operations work among logistics operations. Between improving delivery times and reducing loss, logistics companies can save a lot of money. With the change in the needs of customers, there also needs to be changes to logistics operations to keep up with those needs. Your competitors are keeping up, so if you don't want to lose customers to them, you also need to change.

Are You Keeping Up With Industry Transformations?

Since the future of the logistics industry depends so heavily on technology, if you're not investing in it, you're falling behind. To get a better understanding of how asset tracking technology benefits your company and helps you address your specific needs, [visit our website!](#)