

Tanker tracking is the process of monitoring and managing the movement of tanker trailers carrying liquids or gasses, especially hazardous materials and foodstuffs. It involves the use of advanced location technologies such as GPS to ensure the safety, efficiency, and regulatory compliance of these specialized vehicles while helping fleet managers improve their daily operations.

The Importance of Tanker Tracking

Tanker tracking is of utmost importance for several reasons. Firstly, it is crucial to ensure the safety of transporting hazardous materials. Given the potential risks associated with these materials, the real-time monitoring and control that these systems provide can be of utmost importance.

Furthermore, regulatory compliance and accountability are essential to the transportation industry in general. Tanker tracking systems help companies adhere to industry regulations and standards, providing accurate data and records for audits and inspections. On a far simpler level, tanker tracking allows for improved fleet management and asset utilization. By precisely tracking the location of tanker trailers, logistics professionals can ensure that their assets are being properly allocated in order to facilitate timely deliveries and increased efficiency. Real-time monitoring of tankers also enhances security and reduces the risk of theft or unauthorized access. In the event of any unusual activities or deviations from the predefined routes, alerts can be generated, enabling prompt response and intervention.

Finally, and perhaps most importantly, the availability of accurate location data enables informed decision-making. The more data fleet managers have about their operations, the easier it is to make decisions that will improve those operations. Tanker tracking empowers businesses to pursue a mindset of continuous improvement with confidence backed by comprehensive data.

How Tanker Tracking Works

Traditionally, the foundation of tanker tracking lies in the utilization of GPS technology. GPS-enabled devices are installed on tanker trailers, acting as beacons that transmit location data to a central monitoring system. These devices receive signals from a network of satellites, allowing them to accurately pinpoint the exact coordinates of the trailers.

As the tanker trailer embarks on its journey, the GPS device continuously updates its location information, enabling real-time monitoring. This data is transmitted wirelessly to a centralized control center, where it is processed and analyzed.



It can then be accessed through user-friendly interfaces, providing fleet managers with a comprehensive view of their tanker fleet's whereabouts, status, and conditions.

Types of Tankers that Can Be Tracked

Tanker trailers are already specialized transportation vessels, but they can also be specialized toward a specific purpose. These trailers are designed to safely and efficiently transport specific types of cargo, including liquids and gasses. Depending on what these tankers are designed to carry, different aspects of tanker tracking might be more appealing. Types of tanker cargo that can benefit from tracking include:

Chemicals

These trailers are built with specialized materials and safety features to ensure the secure movement of potential hazardous chemicals. Tracking these tankers helps ensure the safe and secure transportation, minimizing the risk of accidents or spills by monitoring critical parameters.

Petroleum

Similarly, petroleum tankers are equipped with advanced mechanisms to handle volatile substances safely and efficiently. Tanker tracking can ensure safety regulations designed to prevent leaks and accidents are met, while also providing a method of proving compliance.

Grain

Other tankers are used to transport food, including wheat, corn, or rice. The major concern for these tankers is facilitating the safe and contaminationfree transportation of their products. Tanker tracking can help ensure the integrity of the product through condition monitoring.

Liquid Bulk

Milks, juices, and other liquid ingredients are also transported by tankers, and they are similarly concerned with product integrity and preventing dangerous in-transit leaks. Using tanker tracking to provide condition monitoring and leakage monitoring is vital.

Features for Effective Tanker Tracking

Tanker tracking systems provide many of the same core features of any fleet tracking system, but they also prioritize certain features that reflect the specialized uses of these trailers. These features include:

Location Tracking and Geofencing

One of the key components of tanker tracking is location tracking. By leveraging GPS and other location technologies, fleet managers can achieve complete visibility and monitor real-time position of their tankers. This insight to a vehicle's movements lets you quickly identify any deviations from planned routes. It also permits adjustments to routing and scheduling based on real location



and delivery data rather than projections made based on distance and best-case traffic scenarios.

Complete location tracking can also be used to retrieve misplaced or stolen trailers. An extra layer of security can be provided with geofencing, which involves creating virtual boundaries or geographically defined areas around specific locations. Fleet operators can set up geofences around sensitive areas or restricted zones to ensure that tankers do not enter unauthorized areas. If a tanker breaches a geofence, an immediate alert is triggered, enabling fleet managers to respond promptly and mitigate potential risks.

The combined integration of location tracking and geofencing technologies provides several benefits for tanker fleets. Firstly, it enables efficient planning, providing the information needed to effectively optimize routes and allocate resources. Secondly, it enhances security by deterring theft or unauthorized access to both the trailer and its cargo. Fleet managers can monitor the tanker's location at all times and take immediate action in case of any suspicious activity.

Monitoring of Critical Parameters

It is also important for fleet managers to be able to monitor critical parameters. Tankers often carry hazardous or condition-sensitive materials that require careful monitoring to ensure the safety of the cargo, the vehicle, and the surrounding environment. By employing sophisticated monitoring systems, fleet operators can keep a close eye on the parameters that matter to them, including temperature, pressure, humidity, and more. Real-time data from these sensors allows for prompt action in case of any anomalies, preventing accidents or spills.

Sensors play a vital role in enabling accurate condition monitoring for tanker tracking. Specialized sensors and monitoring devices are strategically placed within the tanker to continuously monitor the conditions inside. These sensors transmit data to a centralized system, which provides fleet operators with insights into the current state of the cargo and the tanker itself. Any anomalies can trigger alerts, allowing for immediate action to mitigate potential risks. By actively monitoring critical parameters through sensor technology, fleet operators can effectively identify and address potential risks before disaster strikes. Early detection of abnormalities or deviations from predefined thresholds enables proactive measures to be taken, preventing accidents and ensuring the safety of personnel, the environment, and the cargo being transported.

Real-Time and Historical Location Data

Ideal tanker tracking systems utilize GPS tracking systems and intelligent algorithms to help fleet







managers determine the most optimal routes for their tankers. These systems provide insight into not only current data, but historical data, letting operators analyze the true effectiveness of different routes on a day-to-day basis rather than relying on distance-based predictions from navigational systems. This strategy ultimately leads to faster deliveries and improved customer satisfaction.

Moreover, GPS tracking enables efficient resource allocation. Fleet managers can monitor the status and location of their tankers in real time, providing a clear view of the fleet's availability. This enables them to assign tasks and optimize workloads based on where their tankers are located and where they still have to go. This complete visibility helps ensure a flexible, responsive fleet that can act quickly to prevent delays, minimizing idle time, and maximizing overall operational productivity.

This feature of effective tanker tracking also contributes to efforts toward increasing fuel efficiency. With access to real-time and historical data on routes and timelines, fleet operators can identify areas for improvement and implement strategies to reduce fuel usage. These strategies might include further route optimization or an increase in maintenance frequencies. By focusing on fuel efficiency, fleet operators can not only reduce operational costs but also contribute to environmental sustainability.

Utilization Records and Reporting

Tanker tracking systems also provide insight to fleet utilization, which can be further used to extend a tanker's life and schedule appropriate maintenance. Real-time tracking data provides fleet managers with insights into the location, status, and availability of their tankers. This information allows fleet managers to understand how their tankers are being used and how often they're being used, providing the essential data they need to schedule a rotation of maintenance and active use that reflects the company's needs while extending the lifespan of their assets.

Through this feature, tanker tracking systems enable automated scheduling of maintenance and inspections based on predefined criteria, aiding in the implementation of preventative maintenance measures. Through continuous monitoring and real-time data analysis, fleet managers can quickly identify potential issues or abnormalities in tanker performance. Then, in accordance with those abnormalities, they can address maintenance needs before they get worse, effectively extending the



lifespan of the trailer and preserving its cargo. This proactive approach also helps reduce the repair costs, operational disruptions, and safety issues that come with unexpected breakdowns. By closely monitoring condition and usage patterns, fleet managers can detect early warning signs of potential equipment failures. This valuable data enables them to take immediate corrective actions before the issues escalate instead of waiting until disaster strikes. In doing so, the risk of unexpected breakdowns is minimized, ensuring the smooth and uninterrupted delivery of goods.

Track Your Tanker Trailers with AirFinder

Need help tracking your tanker trailers? Link Labs has the fleet tracking solution you need! Rather than stopping at traditional GPS tracking, our affordable AirFinder Everywhere solution also incorporates WiFi sniffing and cellular ID technologies to provide the visibility you need, no matter where you go. And with our wide array of sensors, you can monitor the conditions that matter to your operations. To learn more about how our scalable enterprise asset visibility solution can work for your fleet tracking needs, **visit our website today!**