



Case Study: Next-Gen Fleet & Cargo Monitoring

IoT Technologies Drive Mexico Based Fleet Operator to Run Smarter, Safer, and Cleaner



AssetLink Global's IoT solutions have enabled Maeda to emerge as a leading provider of *smart* transportation services in Mexico and have helped position the fleet operator for significant growth, locally, and in emerging Latin American (LATAM) markets.

Industry Background

Doing business in Latin America (LATAM) can be both, lucrative and challenging. This is especially true in the Mexican distribution & logistics industry where fleet companies are benefiting from an uptick in commercial activity ahead of the proposed United States-Mexico-Canada Agreement (USMCA).

In this high volume, high value trade environment, ensuring the safety of drivers and safeguarding fleet assets and cargo is not only ethically expedient, but good business. Mechanical problems, remote locales (often controlled by criminal elements), and the terrain itself increase risk and impact driver safety, brand, and the bottom line. Complicating matters is that significant

sections of the country are not reliably covered by cellular data infrastructure, making satellite communications a critical component of any solution. Lastly, the growing pollution crisis affecting many metropolitan areas throughout Mexico has resulted in the realization among fleet operators that adopting responsible fuel usage and proactive maintenance practices can be both economically and environmentally beneficial.

Maeda, a leading fleet operator based in Veracruz, Mexico, is tackling these issues head on. For over 20 years the company has been exceeding expectations in customer service, on time delivery, reliability, and social responsibility.



info@assetlinkglobal.com



www.assetlinkglobal.com



+1.303.862.8745

As a progressive, forward thinking organization, Maeda's early adoption of smart technologies has enabled it to improve visibility, awareness, and control of its expanding fleet of trucks, trailers, and dry vans.

Challenges

Safety is a critical success factor at Maeda. But executing an enterprise safety policy requires serious planning, purposeful technologies, and buy in from stakeholders across the value chain. A deficient or poorly implemented safety policy has far reaching implications on profitability from increased operating costs, higher insurance premiums, lost business, and ongoing legal actions. Conversely, safe operations help protect workers from injury, improve morale, and safeguard vehicles/cargo from theft or vandalism.

Maeda needed a way to connect all vehicle assets under a single umbrella ecosystem. Yet although its telematics solution offered data connectivity and GPS solutions to Maeda's engine powered tractors, these services did not extend to the company's sizable fleet of unpowered trailers and dry vans. This lack of traceability was a challenge even when trailers were hitched, as verifiable tractor-trailer association was difficult. Further problems started as soon as the trailers were unhitched and deposited unattended in large shipping yards or at customer sites. Fundamentally no visibility existed into unpowered trailer status, which after all, contain the valuable customer cargo. With no on-board power for the GPS device, Maeda could not easily determine the location of these assets nor safeguard their cargo. Battery equipped monitoring devices, although a quick fix, proved too costly and impractical to maintain over the long run. Therefore when the inevitable happened, and a trailer or its cargo went missing, Maeda had no way of knowing until well after the fact. It was also impossible to accurately inventory or pinpoint large numbers of orphaned trailers, containers, and their cargo, distributed across multiple trailer yards and shipping docks. The scenario painted an incomplete and inaccurate picture of Maeda's asset ecosystems which made planning and logistics challenging.

Maeda cited the following challenges as top of mind:

- Theft: Trailers and cargo represented potentially lucrative targets for theft and vandalism by organized criminals
- Logistics: Route planning was challenging without knowing the true number, status, and location of unpowered assets
- Visibility: There was no way to locate, monitor, or safeguard unpowered trailers or dry vans outside metro areas
- Customer: Informing customers of the location or ETA of their shipments was an inaccurate and cumbersome process
- Prevention: Unpowered vehicles were not equipped to provide data on ambient conditions or the status of cargo en route

Maeda also foresaw a need for pre-emptively collecting metrics from its fleet to help generate actionable intelligence. The company realized that creating sustainable value, hinged on its ability to include all fleet vehicle types in its digital asset ecosystem. Only then could it reliably manage fuel levels, engine parameters, and driving behaviors. Predictive analytics and contextual driving behavior models could then be utilized to improve wasteful (or unauthorized) fuel consumption, avoid maintenance costs, and incentivize drivers to develop safer driving habits, and optimize routes based on cargo weight, class, and importance.



Solution Overview

In 2018 Maeda selected AssetLink Global as its IoT solutions partner. AssetLink's flagship AssetPack (AP) family of IoT sensor interfaces, wireless connectivity, and cloud services, provides commercial shippers the information and tools they need to move cargo over large distances, safely and profitably. By extending anywhere IoT connectivity to unpowered trailers and containers, the AP has helped transform Maeda's fleet into an interconnected ecosystem of smart trucks, trailers, and containers in a way that is cost effective, value added, and sustainable. This is possible due to the streamlined simplicity and effortless ease in which the AP collects, processes, and transmits metrics critical to the safe & efficient transportation of cargo.



The AP unit is a versatile, self powered IoT sensor, capable of securely communicating data from the edge over cost optimized satellite or cellular communications networks. The interface ships in a ruggedized enclosure, and is certified for use in extreme and hazardous environments. Each unit offers powerful processing and memory capabilities required for complex localized analytics, zero latency satellite transmission, and over the air (OTA) maintenance. But what makes the AP line unique is in the way it achieves this transformation:

- Industry Centric: Manufactured in house and purpose built to meet the needs of the commercial fleet industry
- Connected: Capable of communicating over high availability, cost optimized satellite or cellular networks
- Interoperable: API protocols simplify integration with 3rd party telematics service providers (TSPs) and enterprise systems
- Ready: Powered via vehicle DC or integrated solar panels and ships with an ultra-efficient 10 year battery
- Simple: Valued by drivers, maintenance techs, dispatchers, and managers as interactive and easy to use
- Secure: Incorporates proven edge to cloud encryption that locks down user access, privacy, and data protection

The AP unleashes flows of relevant, timely intelligence from unpowered assets located outside cellular range. Edge data is critical to fleet operators who require a high degree of accuracy for logistics and resource allocation planning. The AP also offers powerful on-board geofencing capabilities that enhance drivers' situational awareness as they approach their destinations or enter unauthorized areas. Geofencing also helps operators recover stolen vehicles quickly, improve fuel management, and identify unexpected route deviations. Enhancing the solution's functionality with proximity sensors or short wavelength ISM communications (such as Bluetooth) is quick and simple via the unit's analog and digital sensor agnostic interface. Extending IoT connectivity to all fleet vehicles, powered and unpowered, provides visibility, awareness, and agility operators need to manage complex logistics, adapt to change, and scale growth. AssetLink IoT solutions are purposeful and goal oriented, promoting streamlined operations, lower complexity, and shorter learning curves.



RESULTS

Today, Maeda operates as a highly efficient, digitally connected transportation company that conforms to safe, profitable, and environmentally sound best practices. AssetLink's AP provides visibility, control, and the insights Maeda needs to manage a large distributed network of employees, vehicles, and customers across Mexico.

Safety

Today, Maeda runs a safer and more modern organization. Drivers have the peace of mind knowing that their wellbeing is top priority, and if problems arise, they can be assured of immediate and rapid response. Dispatchers can now determine the exact location of powered and unpowered trailers. For Maeda, this represents a massive step forward in their ability to protect their high value assets and cargo.

Economic

Improved fleet efficiency and lower expenses on maintenance, fuel and insurance help lower total cost of ownership (TCO). And property loss from theft and vandalism is way down. Maeda is able to focus on revenue generating activities, offering customers peace of mind in knowing their shipments will arrive, intact and on time.

"AssetPack has enabled us to secure a multinational shipping account for 70 transports per week. But what closed the deal was our ability to provide real time monitoring and tracking of unpowered trailers. With their trailers secured and zero cargo loss, they are very happy."

- Enrique Homs, Maeda's CEO

Environmental

The IoT has bolstered Maeda as a *green* organization. A well running fleet means less mechanical wear, fewer parts to replace, and more trucks on the road, generating revenue. However, the biggest environmental impact has been in the drastically lower numbers batteries destined for Mexico's landfills. This has, in part, lead to Maeda receiving the coveted *Empresa Socialmente Responsable* award issued by Cemefi in alliance with AliaRSE¹ for the company's philanthropic and environmentally conscious practices.

AssetLink has helped Maeda digitally transform its operations into an interconnected fleet operation and a leading supplier of smart transportation services in Mexico. This has enabled Maeda to realize its full potential and recognize a value proposition that, at its core, prioritizes safety, value to the customer, and environmental responsibility.

¹ El Centro Mexicano para la Filantropía, A.C. (Cemefi) and the Alianza por la Responsabilidad Social Empresarial (AliaRSE).

ABOUT MAEDA

Maeda, a leading fleet operator based in Veracruz, Mexico. For over 20 years the company has been providing exceptional customer service, on-time reliable, delivery, and participates social responsibility efforts. Today the company owns and operates hundreds of trucks, trailers, and dry vans and is poised to expand its fleet operations throughout Mexico.

ABOUT ASSETLINK GLOBAL

AssetLink is a global leader in the design, manufacture, and execution of remote monitoring systems and next-gen cloud IoT services, seamlessly connected over enterprise-grade communications networks. Best-in-class solutions combined with our growing provider ecosystem address the evolving needs of Fortune 500 and public sector organizations in industries including agriculture, heavy equipment & mining, oil & gas, maritime, and transportation.

Maeda Contact Information

www.maeda.mx
+52.229.922.2769
info@maeda.com

AssetLink Global Contact Information

www.assetlinkglobal.com
+1.303.862.8745
info@assetlinkglobal.com



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