KALERIS | CASE STUDY

DAIMLER

Yard Management

AUTOMOTIVE

Kaleris Solutions Drive Supply Chain Efficiencies for Daimler Trucks

Kaleris, formerly PINC, was the first cloud-based Yard Management System (YMS) utilizing a patented Real-Time Location System (RTLS). Kaleris RTLS leverages low-cost passive RFID (radio frequency identification) and GPS technologies to accurately locate yard assets in real time. Its customers include third-party logistics providers DSC Logistics, DHL/Exel, and Universal Truckload Services, as well as large shippers such as Diageo, Daimler, Kraft, Nestle, SuperValu, and Cost-Plus World Market.

Customer Outcomes

- Elimination of daily manual yard checks
- Reduction of private fleet pool
- 50% reduction in yard drivers across the network
- Reduction of yard truck fuel consumption
- Elimination of manual reporting and yard inventory reconciliation
- Improved collaboration and communication with carriers
- Significantly reduced operational costs

Kaleris' extensive network of sensors is utilized to manage millions of trailers every year, and its product portfolio has expanded to include solutions for manufacturing execution and finished goods distribution.

The solution has three major components:

1. Passive RFID tags are temporary or permanently affixed to trailers, or other transportation assets.

2. RFID readers are most often installed at warehouse yard check-in gates, on manufacturing lines, and exits into trailer yards. Mobile readers on spotting tractors, golf carts, and yes even aerial drones, can be used to read the locations of tagged trailers.

3. Kaleris Advanced YMS provides a way to track and manage the tagged equipment in the yard, initiate trailer moves, and improve inbound and outbound shipment management, control, and visibility.

"[Kaleris] is pioneering a new way to automate" ***-Daimler IT Manager***

Passive RFID Trailer Tag

RFID Readers on Warehouse Check-in gates, on the production line, spotting tractors, golf carts, and aerial drones. Kaleris' Advanced YMS is used to manage trailer movements, provide end-to-end visibility, and report operational performance metrics. While Kaleris can supply customers with certified hardware, customers also have the option to procure their own hardware. In many cases, Kaleris has the flexibility to integrate with existing installed hardware. During a recent visit to Daimler Trucks in Portland, Oregon, we received an in-depth overview of how Kaleris is used to manage inbound materials, manufacturing execution, and finished goods.

Daimler Trucks Leverages Kaleris

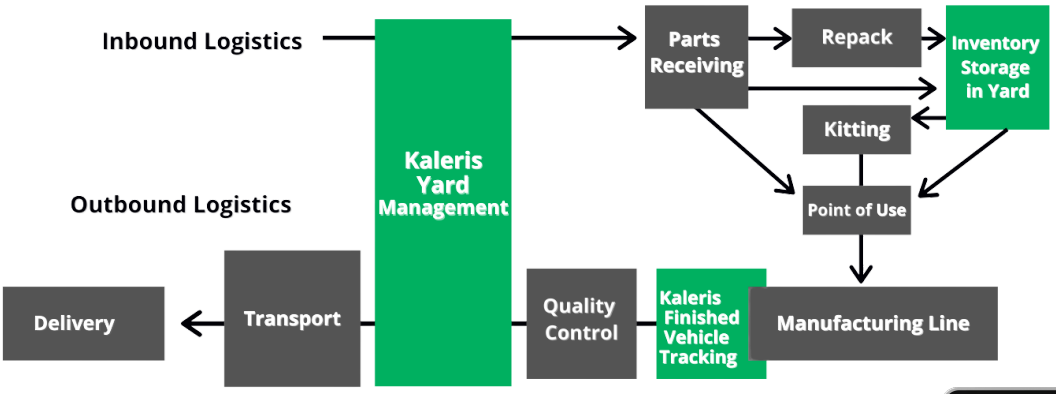
Daimler Trucks North America is known for its Freightliner, Western Star, Thomas Built buses, and Detroit Diesel engines and components. In 2012, Sungsoo Lee, Daimler Trucks' Saltillo, Mexico's Plant Manager asked, "How can I run my Trailer Yard like an Airport?" One-and-a-half trailers of parts and components are required to manufacture each Daimler truck, so tight inbound materials management is critical. At that time, the 1.3 million square foot manufacturing plant had an average of 550 trailers in its yard and 250 truckload arrivals and departures each day. The plant had seven yard tractors and 150 dock doors.

A crew of three were spending 70 hours a week performing yard checks and gathering trailer data, which soon became obsolete. This situation negatively impacted inbound materials tracking and led to manufacturing line shortages when needed parts on trailers were not processed in time.

After a search and evaluation of YMS solutions, Daimler Trucks selected Kaleris for its leading RTLS capabilities, rapid deployment, and accelerated ROI. Daimler Trucks worked with Kaleris to configure the solution to meet its business requirements and was up and running in a matter of weeks.

In a post-deployment review, Daimler confirmed that it had achieved 99% trailer yard accuracy and a 50% reduction in trailer move time. Hand radioed and written trailer move requests had been completely replaced by the Kaleris YMS. The system provided accurate, real-time visibility of yard truck and driver productivity, and it provided visibility into trailer aging which reduced carrier detention fees by 50%.

Overseeing the Kaleris relationship with Daimler Trucks North America is Roderick "Rod" Flores, IT Operations and Corporate Support. According to Rod, "[Kaleris] provides us with the added benefit of 'Big Data' needed to efficiently manage our entire supply chain operations."



DAIMLER TRUCKS' MANUFACTURING PROCESS WITH KALERIS

Since the 2012 success at Daimler Trucks' Saltillo plant, Kaleris advanced YMS has been deployed in all nine of Daimler Trucks' U.S. and Mexico manufacturing operations to track inbound materials and parts.

When inbound parts and materials trailers reach the manufacturing check-in gate, the gate attendant scans a temporary RFID tag and associates it with the trailer in the Kaleris YMS. The tag (which has a magnetic base) is then affixed to the trailer and the attendant uses the YMS to identify which yard location the trailer should be dropped in. The tag is read by a reader mounted at the entry gate as the trailer passes into the yard establishing a "check-in" time in the YMS. When the trailer is dropped in the yard, the RFID tags are read by yard tractors and golf carts mounted with readers as they pass the trailers. This allows inbound inventory to be tracked and updated on an ongoing basis.

At the time of our visit, Daimler and Kaleris were working on building the interfaces to display the individual part numbers on each trailer in the YMS. (Kaleris has already implemented this with a third-party logistics provider customer.)

Once the trailer is spotted in the dock door as directed, the tracking and aging start over. The Kaleris YMS facility map view shown below provides managers with a graphic display of each trailer's aging in the yard.

Daimler Trucks utilizes Kaleris YMS to track multiple KPIs (key performance indicators) across its locations. These include driver wait time, yard tractor driver productivity, carrier detention charges, dock door utilization, finished goods production to shipping cycle times, and inbound management during demand spikes.

In 2015, Daimler Trucks expanded Kaleris' YMS to manage finished vehicles from the manufacturing plant to carrier pick up. Thus far, the finished vehicles solution has been deployed in two plants and Daimler Trucks plans to deploy it in another two plants this year. As part of its partnership, Daimler Trucks and Kaleris are working on a project to share on-hand parts and materials inventory information between plants, suppliers, and third-party logistics providers.

Now when a finished vehicle nears completion, Daimler Trucks prints a one-page vehicle identification report with an embedded RFID tag. The report's RFID tag is associated with the vehicle in the YMS and it is then affixed to each vehicle's front window. This allows Kaleris YMS to track the finished vehicle inventory in the plant and in the yard.