



# Telematics for Chassis Represent Significant Opportunity for Intermodal

Wider deployment of telematics on intermodal chassis present a significant opportunity to improve asset utilization, equipment condition and ultimately boost both profitability and service.

This was a key message that emerged from suppliers and IEPs when Intermodal Insights asked experts to address the status of telematics implementation for the North American chassis fleet. Additionally, while intermodal adoption of telematics is accelerating, there is still much more to be done, particularly on the international cargo side of the business.

## Wide Range of Benefits

Ed McQuillan, president of Ashland Avenue Partners, summed up the current intermodal telematics situation by outlining gains beyond equipment location, which has been the initial focus of attention for intermodal.

“They include better utilization, immediate awareness of chassis migrating from a pool location, arrival and departure information that can resolve billing disputes, and theft prevention,” he said.

The theme of productivity gains was a common thread in all the experts’ comments.

Norm Thomas, general manager, PowerFleet for Logistics at I.D. Systems, emphasized that there are both internal benefits, including lower costs, to the IEP and the motor carrier as well as external benefits when the chassis is integrated effectively into the supply chain and freight network of customers.

“The benefits have been realized primarily within individual companies due to competitive forces such as integration demands, pricing pressure and increasing operational efficiency. Companies are striving to refine the technology internally before monetizing the technology externally,” said Kevin Snyder, chief technology officer at TRAC Intermodal.

Blackberry Radar’s Senior Vice President and General Manager Christopher Plaat summed up benefits by citing three key areas – improving the utilization of the asset, reducing costs and being able to offer differentiated services to customers. Better information about chassis location and condition will increase driver satisfaction and can save them significant time in making a pickup.

ORBCOMM's Al Tama, general manager and vice president – containers and ports, believes telematics can address two historic challenges for intermodal – asset utilization and accurate lease charge calculations.

## Importance of Sharing Data

At the same time, Platt underscored the importance of sharing data among users. He indicated that reductions in dwell time can be realized when carriers and asset owners share information. A 10 to 20 % improvement in utilization and cost reductions has been achieved, though Platt cautioned that the actual benefits vary from customer to customer based on their particular needs and operations.

Cliff Creech, Phillips Connect Technologies' intermodal business development manager shared, "Communication of the telematics data to all of the parties that can benefit from it is really an important part of the decision-making process to invest in these systems," Creech said. "You want to help the maintenance department to have better quality chassis. You want the user to get a better chassis."

Vidyasagar Chikkala, vice president of information technology, American Intermodal Management, pinpointed another factor in data sharing efforts, saying "the real challenge is to integrate all the information about equipment – in terms of data accuracy and timeliness. To achieve proper tracking we need to build up automated solutions." He noted that further advancements would have more drayage carriers use telematics with capabilities beyond just GPS tracking.

FlexiVan's Donna Davison, director, fleet planning, stressed the value of data analytics when chassis telematics are used, as well as the fact that stakeholder benefits such as maintenance and dwell time reductions will vary, and are based on their role in the chassis provisioning process.

## Visibility, And Much More Down the Line

"Telematics have helped chassis fleets by providing visibility into where their chassis are in real-time," Tama noted. "This information has allowed fleets to reposition chassis as needed to maximize utilization as well as create accurate invoices to their customers who lease their chassis on a per trip and per day basis."

Other experts explained what additional capabilities can be obtained beyond knowing where the chassis is.

James Sharkey, vice president of global sales and marketing for Pressure Systems International, believes that "equipment health or status is the next step beyond locating it. The ability to verify that a chassis is 'roadable' without having to be on-site to physically inspect the unit is a huge benefit."

The future benefits he identified included lower labor costs, proactively addressing maintenance issues and replacing pre-trip inspections that can be unreliable at times. For example, fixing a tire with a slow leak is much less costly than replacing one after a blowout.

Creech offered this perspective, which he termed "full health" telematics.

"If you are going to invest in telematics you can get something more than where is the asset," he said. "Solutions are available to monitor lights, brakes, tires and even wheel ends on chassis."

When a company invests in telematics for an additional feature, such as tire monitoring, beyond simple GPS tracking, they can capture significant benefits at a small incremental cost if they add other capabilities such as brakes and lights.

## Domestic vs. International

While the benefits experts identified are widespread, there is one significant difference, the type of intermodal freight using telematics.

Companies such as J.B. Hunt Transport Services, Schneider and Hub Group have invested in telematics for their domestic intermodal box fleets to enhance service and features, enabling them to improve visibility and utilization.

"The domestic intermodal companies have a greater incentive to adopt telematics because they control the equipment," said Si-amak Azmoudeh, vice president of product line management and business development at Skybitz, a business unit of Ametek Corp.

"From an [international] container perspective, the intermodal industry is trying to secure the same benefits that truckload carriers have been enjoying for a long time," he said.

"International intermodal telematics investment has trailed domestic usage because the container owner often doesn't actually operate it," he said. "As a result, there are questions about who has the incentive to make the investment to capture those benefits."

"The percentage of [marine] chassis in North America to be equipped with telemetry is still very low," said Tama.

"However, there is continued interest in telematics in the [international] chassis industry. Many fleets have outfitted a small portion of their fleet to become familiar with the technology and its benefits. Fleet-wide deployment is necessary to harness the full power of the technology and create operational efficiencies and other added benefits.

There are no specific statistics to show how much adoption of telematics has already occurred on the international intermodal side. However, anecdotally, the rapid pace of international intermodal telematics adoption was illustrated both by American Intermodal Management and Skybitz. Tim Erion, director of AIM's business intelligence, said the company's chassis fleet equipped with telematics for the international intermodal market is 11,000 currently, nearly 60% above this same time a year ago. At Skybitz, 30,000 units are in place on international equipment now, more than double the total from 12 months ago.

Creech, who says telematics for international chassis is "brand new", indicated that 1/3 of highway trailers are equipped with GPS tracking. Increasingly, other telematics, primarily for tire health on highway trailers, are starting to gain traction. Installation of GPS tracking and related health telematics is growing at roughly 17% per year.

## Next Steps

TRAC's Snyder believes next steps should include more attention to data as supply chain evolution has resulted in more and more complex IT infrastructure.

"This growing complexity and the demand for real-time data can no longer be satisfied by the traditional EDI transactions," he said. "WebHooks delivering data instantly and web APIs are the next generation of EDI formats that must be standardized from a logical data model perspective."

Snyder explained that companies today want to move further with the use of data to determine what the information tells them and how it can better inform their decision-making.

"We have become an instant gratification society requiring access to information at the touch of a screen. The timelier the information, the more competitive you will become in the marketplace and interlocked with your customers and partners.

Chikkala said other places where telematics is needed critically is in rail and container yards. "Railroads manage and control a major portion of the intermodal supply chain, not only the rail haul portion but the chassis and container equipment," said Thomas. "Their challenge is how to monetize the benefits beyond an internal utilization/efficiency improvement ROI."

Platt believes that the next step is for customers to determine how they want to use the data. Asset owners typically have to bear the brunt of the cost, even as it provides value for both the owners and their customers.

A key question, Platt said, is who owns the data and whether you want to share it at no cost. Data owners have to decide whether they want to give [information] away, or if there is a value for the price they are paying.

Early adopters will be the first to see the benefits in terms of better equipment quality and lower maintenance costs, Creech said. He said early adopters can gain benefits because a chassis' useful life is at least 20 years, compared with seven years for typical OTR trailers. He also said positive ROI can be achieved in two years when "full health" telematics is deployed.

Another question that needs to be addressed is whether users of the information have the technology on the receiving end to actually capture and use the data, Creech said, citing the example of a company mechanic who receives work orders on paper and may not be able to use information in an electronic format.

"A great deal of valuable work is being done by digital platform providers who are helping to aggregate and 'communitize' existing

event data along the intermodal chain," said Sue Rutherford, vice president of marketing at ORBCOMM. "Much more can and will be done from a technological standpoint. The real issue is understanding and responding to evolving user experiences, ideas and requests."

Tama believes a next step is wider use of the, "smart chassis", to monitor lights, brakes, tires, and mileage as well as whether or not a box is mounted.

Cheetah Chassis' Bob Fogarty, regional sales representative, offered an additional perspective.

"As a manufacturer, the Transportation Recall Enhancement, Accountability and Documentation Act has made equipment tracking critical. We support any technology that helps us comply with it," he said, adding that "Although there are some great systems out there, improvements are being considered daily. We see a lot of different approaches being tested."

FlexiVan's Davison focused on the component suppliers' contributions.

"We view the development of component sensors that determine the health of chassis in our industry as the next likely step in telematics," she said. "They help support improvements in safety, as well as reduce equipment down-time and out-of-service violations. Greater visibility in gate transactions at intermodal facilities is one area that is essential for full equipment integration and transparency."

McQuillan addressed the importance of equipment location while it's on the road.

"Equipment tracking inside of rail and marine terminals has been very accurate for some time," he believes. "Movement information while containers and trailers are on the street and at customer locations has been more challenging to document. When a chassis or trailer is parked without a truck attached, then a telematics device may be the only way to determine location. Broader use of these devices will be required to improve location and inventory information in the future."