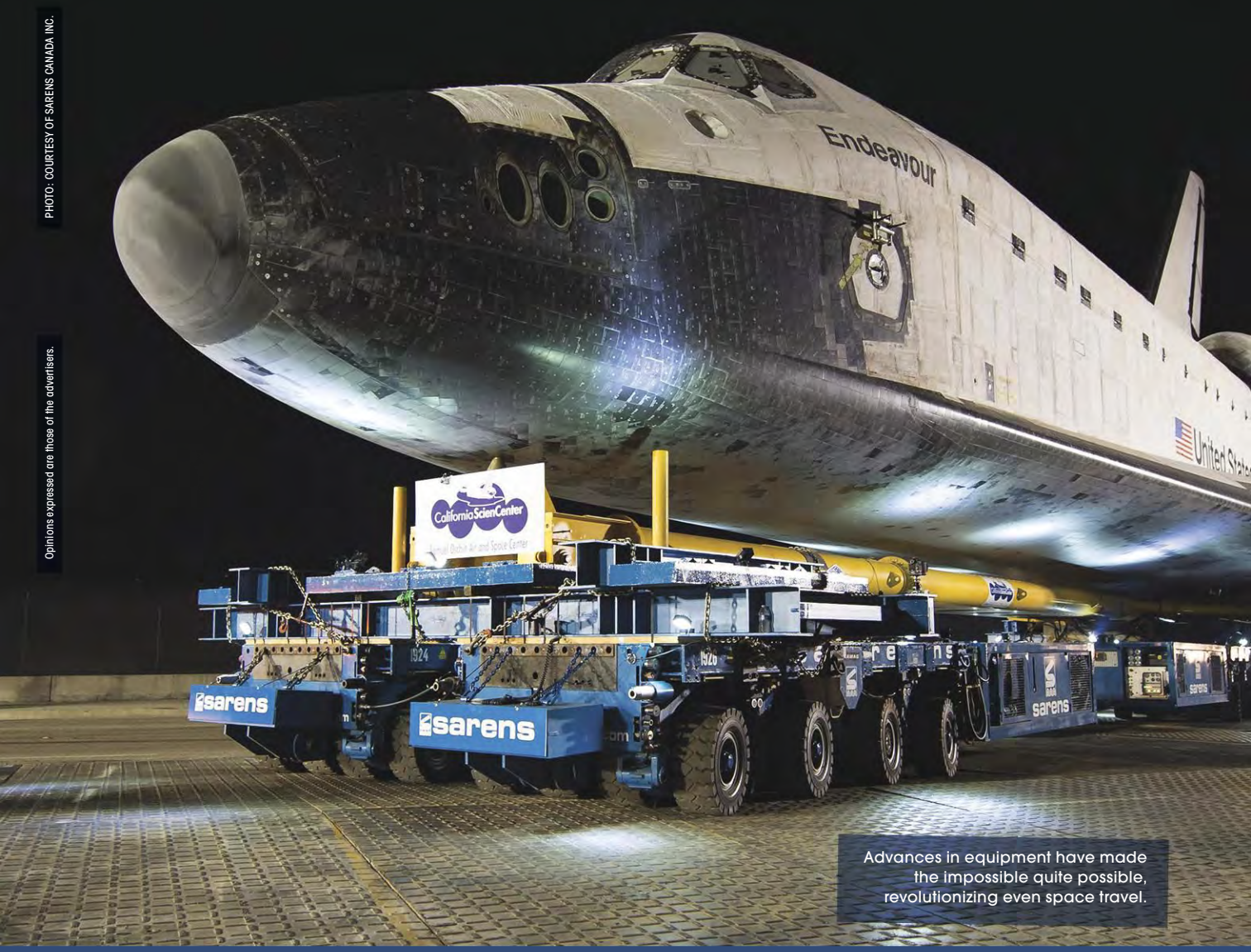

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Advances in equipment have made the impossible quite possible, revolutionizing even space travel.

Equipment Today II

Equipped For Success

Technology and software change equipment capabilities and management

By Kate Gawlik

WHAT'S INSIDE

Telematics: Giving Equipment a Voice

Companies Join Together to Advance Technology Platforms

The operation and management of equipment over the past 10 years has evolved with the introduction of telematics devices. Telematics have allowed companies to save money, expand the lifespan of their fleets and create safer work environments. Some companies shared their telematics systems stories.

Operating and Management Advancements

Thomas Coleman, CEM, is the corporate heavy equipment manager for Waste Management in Houston. He started using telematics from one provider in 2008 on eight pieces of equipment. At the time, he says the basic reports covered equipment performance, fuel consumption, engine and brake usage, and a few other categories. "The reports empowered managers to better manage their fleets, and we eventually got to the point where managers requested equipment with telematics," Coleman says.

Today, Coleman manages 1,350 pieces of equipment with telematics from four manufacturers. The advancements make it feel like managers are riding in the equipment with the operators, allowing Waste Management to be more proactive instead of reactive. An example includes a report that showed that equipment was sitting idle 70% of the time. "Managers were stunned and had no idea that equipment was being misused to such an extent," Coleman says. "The reports changed the way that machines were being used."

Other data shows that when air filters need to be replaced, radiators are dirty and tire pressure is low. Managers even now get alerts if an operator is not wearing a seatbelt. The resulting operational changes have brought immediate payback in fuel costs, less maintenance requirements and extended warranty hours.

Monitoring Utilization

Greg Peet, CEM, is the equipment manager for Helm Group and president of Heavy Equipment Services Inc. in Freeport, Ill. He started using telematics in 2012, and now 226 pieces of his equipment have telematics devices. The biggest benefits have been tracking engine hours for on-time equipment service and generating billing hours for rental equipment usage.

Newer machines—about 10% of the fleet—are equipped with OEM devices. "Location tracking and monitoring utilization are very important to us," Peet says. "We are able to monitor machine health and operator performance on newer machines equipped with OEM devices."

Now machines do not have to sit at a jobsite waiting to be used. Instead, Peet and his team can review data to know how to best utilize the fleet without the need for outside equipment rentals.

Heavy Equipment Services has seen the amount of data generated by devices greatly evolve. Peet says, "More and more OEMs are recognizing the value to the end user and providing telematics as standard components on their equipment. There is movement to continue to provide more data in a standardized format for other types of equipment. We are beginning to upload telematics data into other software

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Telematics devices have made project completion more successful with more manageable equipment and safer operations.

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applications, such as ERP programs, to drive efficiency. Our company is currently doing that with daily equipment hour meter readings."

A Global Connection

Ken Burke, CEM, is the country manager for Sarens Canada Inc. in Leduc, Alberta. Sarens has locations in 60 countries and telematics deployed globally. His firm adopted telematics in 2008 as a way to drive maintenance and service systems. Within the first month, it proved useful by helping to recover a $1-million stolen crane. "We use telematics to track our equipment's location and monitor how operators are using the equipment. With this, we can improve the efficiency of our fleet and ensure that proper maintenance requirements are met."

For instance, Sarens can track the travel time on its crawlers and how often an operator went into override on a piece of equipment. The resulting reports and alerts provide education opportunities for operators. "I can see if an operator used an override system and if that decision put the operator in an unsafe condition," Burke says.

Hurdles to Overcome

Coleman believes that the greatest challenge for telematics is getting people to accept it, saying, "To some people, telematics sounds like science fiction because it's new and not part of the old way of doing things. For most, it just takes time to see the real benefits."

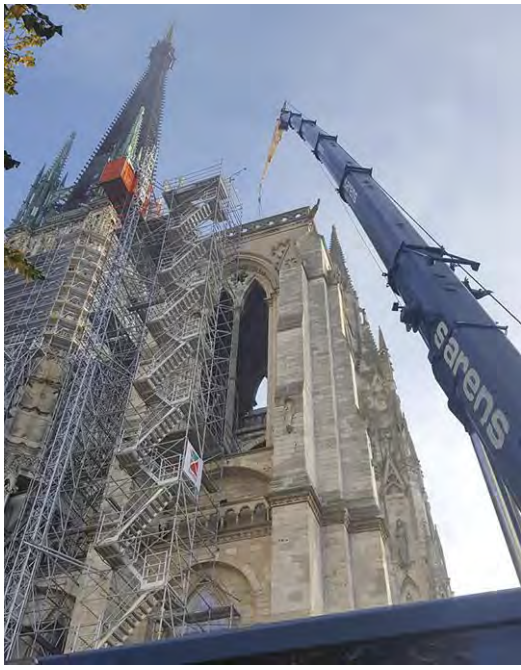
To increase acceptance, Waste Management changed its company culture to ensure that managers do not feel threatened; Coleman and his team create reports that bring value to a manager's role. Operators also are involved in reviewing reports, which has turned into a friendly competition of sorts to see who is the most efficient at their job.

Others who use telematics find network coverage to be a problem. "We tend to both perform construction work and operate quarries and asphalt plants in more rural areas, so for us, the biggest challenge has been coverage, especially since 2G was discontinued at the end of last year," Peet says.

Sarens has similar concerns on a global scale, and Burke notes that in some remote areas, managers pull the data off devices with a jump drive. In addition, because of Sarens' vast working area, the company has had to get creative. "We are global, and each device installation for each piece of equipment is different," Burke says. "That is a challenge for the interpretation of the data."

A Standard for Improvement

The Association of Equipment Management Professionals (AEMP) has been working to fix these problems and develop a standard to provide select telematics data for mixed fleets. The first version was published in 2010, and an update was released in 2016 with a global focus and ISO certification.



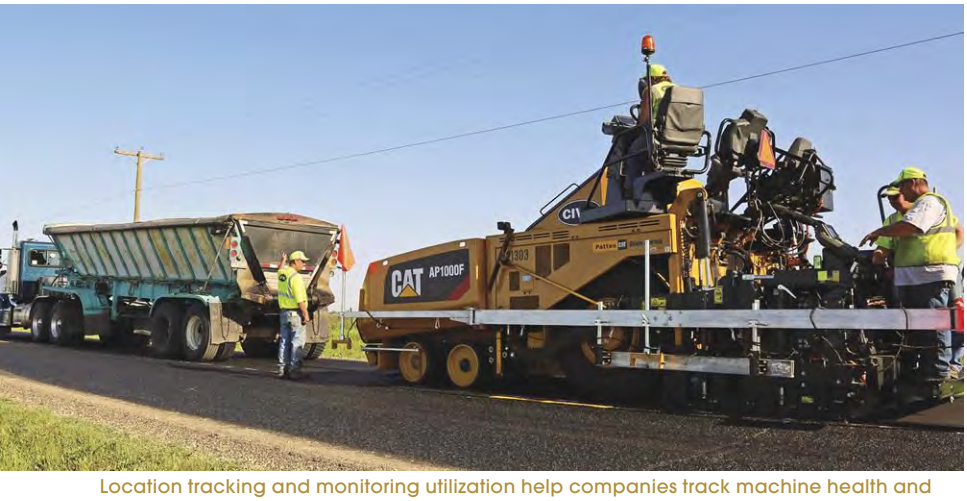
A global standard with ISO certification has advanced telematics and provider networks.

PHOTO: COURTESY OF SARENS CANADA INC.

Coleman believes the standard has brought more visibility to telematics. "The standard has opened the door to organizations to have options and advancements from providers, especially with a mixed fleet. I used to monitor four different telematics portals, and now we can get information from all four portals into one," he says.

Similarly, Peet can view all of Heavy Equipment Services' equipment in one application. He says, "While we still have to go to OEM applications currently for most other data, the new AEMP standard/ISO 15143-3 will enable us to see a much broader range of data and allow us to monitor, respond to and report on many more data elements, including many machine alerts/fault codes."

Burke sums it up by saying, "If we can measure it, we can manage it." With the help of AEMP, the companies mentioned here and others are working to standardize data and change the capabilities of equipment. ◆



Location tracking and monitoring utilization help companies track machine health and operator performance.

PHOTO: COURTESY OF HEAVY EQUIPMENT SERVICES INC.

New Large Barge Fits Within the Box

The P4-9 ISO Container Barge was recently unveiled by Poseidon Barge at ConExpo 2017 in Las Vegas. An estimated 128,000 attendees had the opportunity to view the new barge and speak with Poseidon engineers and sales staff about the product.

One attendee, Gary MacNeill from McNally Corp., likes the idea of the P4-9 ISO Container Barge being the same dimensions (40 ft x 8 ft x 9.5 ft) as a standard ISO shipping container. "It's suited for rail and sea shipping if needed," he says. "With our company having worked in very remote areas in the past, I can see the advantage to these Poseidon barges using standard commercial shipping companies for mobilization and demobilization."

The Poseidon P10 (44 ft x 11 ft x 10 ft) also was on hand. "The P10 has gained credibility for being the solution to the challenge of floating larger pieces of equipment while having a smaller footprint," says Scott Sprunger, central U.S. sales representative with Poseidon Barge. "The P4-9 ISO Container Barge is of similar stature. With its standard shipping dimensions, we anticipate that it too will be the preferred solution on the international level."

Poseidon Barge is a portable sectional barge manufacturer in Northeast Indiana with stock locations across the United States. For more information, visit www.poseidonbarge.com. ◆

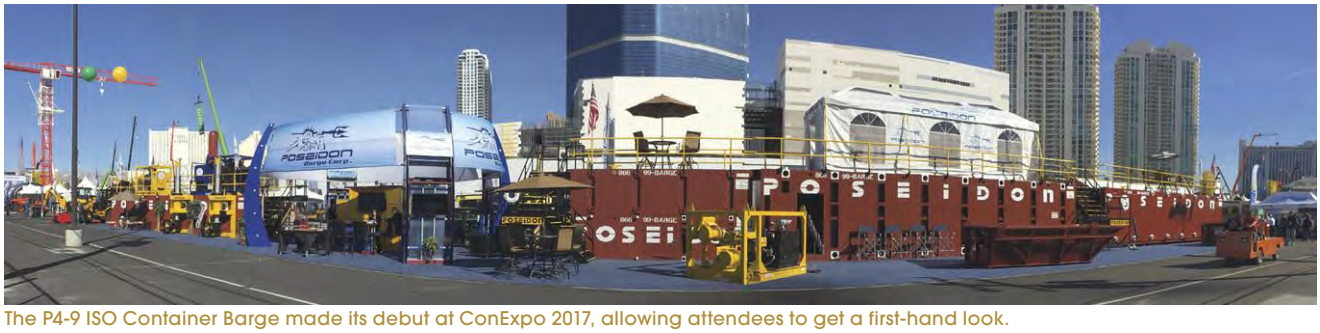


PHOTO: COURTESY OF POSEIDON BARGE

The P4-9 ISO Container Barge made its debut at ConExpo 2017, allowing attendees to get a first-hand look.

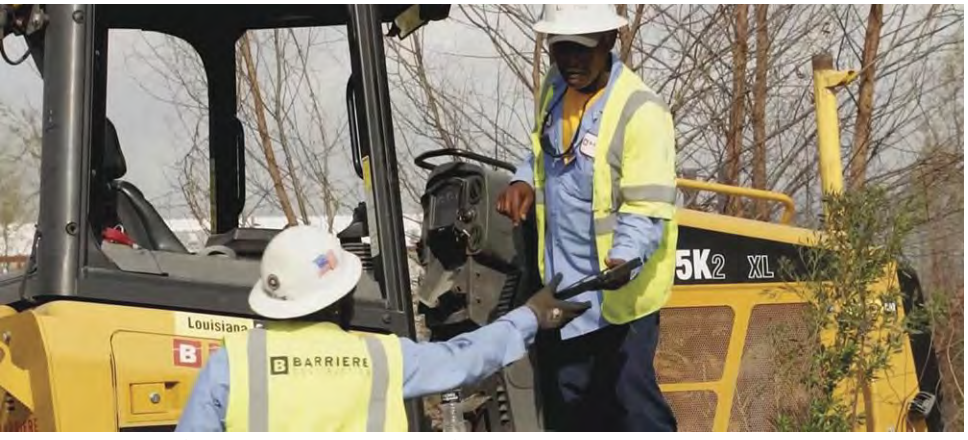
Going Paperless for Equipment Inspections

Going paperless is a popular goal as contractors look to escape the lag time and limitations of paper forms. At Barriere Construction in Louisiana, the move to electronic forms with B2W Inform has delivered big improvements in the equipment inspection process.

The company now creates customized forms to extract the exact information required about each specific piece of equipment. Foreman and operators access the right form at the right time online, and filling out electronic forms is faster and easier. Dropdown menus, check boxes, mandatory fields and other functionality keep the data structured and consistent while preventing errors or omissions. Rich data, like photos and videos, also can be included.

Most importantly, digital forms have closed the gap between the field and office and between identifying a problem and correcting it. "Getting inspection and audit forms instantaneously in a digital format with B2W Inform has really been a game changer," says Brett Todd, resource operations center manager at Barriere Construction. "We can create work orders right away and have been able to cut the days-to-complete timeframe from two or three weeks to less than a week, on average."

For more information about B2W Inform, visit resources.b2wsoftware.com. ◆



Barriere Construction leverages the B2W Inform solution for data capture and analysis to make its equipment inspection process paperless.

PHOTO: COURTESY OF B2W SOFTWARE

Concrete Curing Solutions

The unique demands of concrete curing are understood by Sunbelt Rentals. During an ongoing light rail construction project, Sunbelt was brought in to equip the curing of five 8-ft to 15-ft-thick and 53-ft-tall concrete bridge structures. There were some immediate challenges to consider. First, the internal heat sensors within the structures could not reach temperatures higher than 160°F. While curing at heights greater than 50 ft, a chiller would need to tie into a manifold connecting to 50 PEX tubes inside the structure's curing area. Those individual tubes could not exceed 9.2 gallons of water per minute.

Based on these challenges and the light rail engineering plans, Sunbelt's application specialist and account manager executed a turnkey solution complete with an onsite technician available during each concrete pour. In addition to the five water-cooled chillers and generators delivered to the jobsite, Sunbelt provided a diesel pump to properly circulate water within the structures at heights greater than 50 ft. A 125-ft articulating manlift was simultaneously used to set rebar before each pour to reinforce the concrete structures. When temperatures dropped below 32°F, Sunbelt also utilized a glycol tank to prevent the entire system from freezing (find more products at www.sunbeltrentals.com).

Throughout the four-day curing period, the Sunbelt team kept the concrete's internal temperature below 150°F, and all five structures were successfully mantled. Utilizing both its equipment and expertise, Sunbelt was able to solve for planned and unanticipated challenges and keep the light rail construction on schedule. ◆

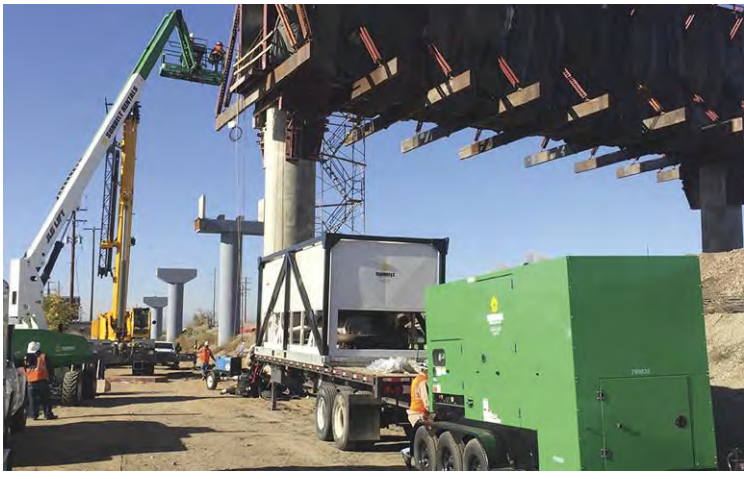


PHOTO: COURTESY OF SUNBELT RENTALS

A light rail construction project was kept on schedule with the right equipment.