

# Ground Support

WORLDWIDE  
EQUIPMENT – SERVICES – HANDLING

*A SHIFT IN*

# TECHNOLOGY

Electronic transmissions installed in GSE provide safety features like collision avoidance, which limits damage to aircraft on the ramp.

**GROUND SERVICE PROVIDERS**  
**When is it Best to Outsource  
Ground Handling?**

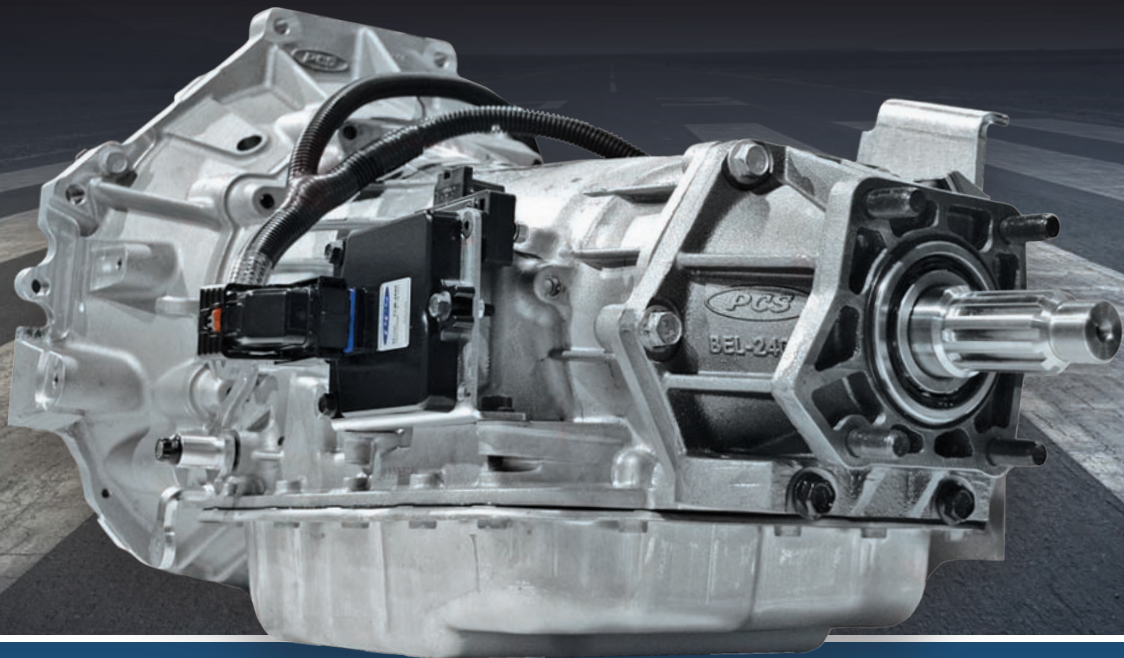
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**INTERNATIONAL**  
**Europe's Eye on Safety**

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# YOUR TRANSMISSION SOLUTION.

At the core of every PCS 4LHD transmission is a 100% factory new GM 4-speed transmission. All transmissions feature the PCS Abuse Protection System (APS) valve body which solves many common industry issues.



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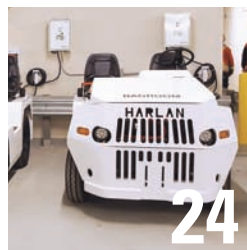
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# What Does 2017 Have In Store For Us?

The February issue of *Ground Support Worldwide* marks our 25th year as a magazine. We will continue to focus on ground support equipment while expanding our focus on ground service providers.

Since I have not yet gotten used to writing 2017 on things yet, and a six cannot easily be re-written to a seven, it is hard to say that we are already in February.

This year we are mixing it up, and the February issue of *Ground Support Worldwide* marks our 25th anniversary year as a magazine.

I know what you are thinking, we are going to do a look back over the years...blah blah blah. Nope, we did that five years ago, and we actually donated our timeline display to the National Museum of Commercial Aviation for the GSE exhibit.

Instead, we are adding a new section to the magazine that reflects how the magazine has evolved. We have always focused on equipment and will continue to, but this year we are going to expand our focus on ground service providers.

We are excited to start our 25th year in the industry on such a positive note.

Speaking of which, with the overwhelmingly positive feedback from exhibitors and attendees for the 2016 International Airport GSE Expo, I am happy to announce that we have signed a contract with the Rio for the next two events. We will continue to partner with the IAEMA with The International Airport GSE Expo being held Oct. 2-4, 2018 and Oct. 20-22, 2020 at The Rio All Suites Hotel and Casino, Las Vegas. Check out additional details on page 13.

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# Leaders of the Year



**Ground**  
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WORLDWIDE

We are accepting nominations for the *Leaders of the Year Awards* in the categories below:



Get there quicker! Scan the QR code to access the nomination form.

**Team Leader Award | Nomination Deadline: March 1, 2017**

This award will go to an individual who has taken a leadership role with personnel. Winner will be featured in the May issue.

**Lifetime Achievement Award | Nomination Deadline: April 3, 2017**

This award will go to a person who has demonstrated commitment to the industry through numerous years of dedicated service. Winner will be featured in the June/July issue.

To nominate, visit: <http://svy.mk/2f9cdyE>

Winners from each category will be contacted by *Ground Support Worldwide* magazine.

## ► Upcoming Events

**April 22-26**  
**International Aviation  
 Snow Symposium**  
 Buffalo, NY

**April 25-27**  
**GSE & Ramp-Ops Conference**  
 Milan, Italy

**April 25-27**  
**MRO Americas**  
 Orlando, FL

**May 2-4**  
**NBAA Maintenance  
 Conference**  
 West Palm Beach, FL

**May 7-10**  
**AAAE 89th Annual  
 Conference & Expo**  
 Long Beach, CA

**May 21-24**  
**IATA Ground Handling  
 Conference**  
 Bangkok, Thailand

INTERNATIONAL  
 AIRPORT  
**GSE**  
 EXPO

**DATES ANNOUNCED  
 FOR 2018/2020  
 INTERNATIONAL  
 AIRPORT GSE  
 EXPOS**

**SEE PAGE 13 FOR  
 MORE INFORMATION**

## ► TOP NEWS

### United to Remove Hazards Faced by Baggage Handlers

The U.S. Department of Labor announced a precedent-setting agreement with United Airlines to protect its employees from future injuries by improving its baggage handling operation. The agreement settles a lawsuit filed by the department on behalf of its Occupational Safety and Health Administration (OSHA) to eliminate several hazardous conditions its inspectors identified in United's baggage handling operation at Newark Liberty International Airport.



From 2011 to January 2015, United Airline's baggage handlers at Newark reported at least 622 musculoskeletal injuries.

"We are pleased that United Airlines has recognized that employers have a responsibility to protect workers from the many hazards that can cause musculoskeletal injuries," said Robert Kulick, OSHA regional administrator in New York. "With this agreement, United will take the steps necessary to prevent its employees from suffering unnecessary injuries due to its deficient baggage handling operation."

OSHA's inspection found five hazardous activities and conditions in United's baggage handling operations that contributed to the high rate of injuries. Among other provisions in the settlement, United will retain a qualified expert to perform an evaluation of potential repetitive stress or injury risks in baggage handling operations at Newark Liberty and to make recommendations to improve worker safety there.

### JBT Tempest Deicer Simulators Installed at Denver International and Philadelphia International

JBT and KBY Software installed Tempest deicer simulators at Denver International Airport (DEN) and Philadelphia International

Airport (PHL) during the fourth quarter of 2016.

These simulators provide effective training in the operation of the Tempest Standard and XR Boom models with or without the AirFirst system. The simulators are available in basic and advanced configurations and options include immersive head tracking visuals, aircraft types, networked configurations, and custom deicing environments.

"This simulator allows our customers to optimize operations and capture the benefits that lead to the lowest total cost of ownership (TCO) in the business," said Ed Sachs, JBT Tempest product manager.

"We are excited to work with JBT to get the Tempest deicer simulators into the hands of deicer trainers and operators. Our goal is to support customer Standard Operating Procedures (SOPs) so that simulator training is directly transferable to the operational environment," added Brian Yeoman, CEO/GM, KBY Software.

### Mishandled Baggage Rate, Flight Cancellations at All-Time Low

According to an Air Travel Consumer Report (ATCR), the U.S. carriers reporting mishandled baggage data posted a mishandled baggage rate of 2.02 reports per 1,000 passengers in November, the lowest rate since mishandled baggage reporting started in 1987. The previous low rate was 2.06 in October 2016. The November 2015 rate was 2.53.

The reporting carriers posted an on-time arrival rate of 86.5 percent in November 2016, an improvement over both the 83.7 percent mark in November 2015 and the 85.5 percent on-time rate in October 2016.

The consumer report also includes data on flight cancellations, tarmac delays, chronically delayed flights and the causes of flight delays filed with the Department's Bureau of Transportation Statistics (BTS) by the reporting carriers. In addition, the consumer report contains a tally of aviation service complaints filed with DOT's Aviation Consumer Protection Division by consumers regarding a range of issues such as flight problems, baggage, reservation and ticketing, refunds, customer service and disability.

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## SATS Certified as Regional Ramp Services Training Provider

SATS Ltd. was awarded International Air Transport Association (IATA) accreditation for Ramp Services training. The first worldwide to be accredited for ground operations training, SATS is now an Authorized Training Center (ATC) with rights to train ground handlers in Singapore, Malaysia, Indonesia, Thailand, Philippines, Vietnam, Cambodia, Laos, Brunei, Myanmar and India.

This program, scheduled to begin in March, is designed to equip ground handling staff with knowledge and skills based on industry best practices. SATS will train ground handling professionals based on a new training curriculum aligned with IATA's Airport Handling Manual (AHM) as well as the International Ground Operating Manual (IGOM) with input from SATS and other industry experts including aircraft manufacturers.

Modules include operations from Aircraft Ground Movement (AGM) to Ground-to-Cockpit Communication and Aircraft Servicing, including Turnaround Services.

"Air travel in Asia is expected to grow exponentially, but there is still a deficit in trained personnel to meet the demand," said Conrad Clifford, IATA regional vice president, Asia Pacific. "It is also crucial that ramp and apron services keep up with the most recent industry developments."

## IAI Completes TaxiBot Airbus Certification Tests

Israel Aerospace Industries Ltd. (IAI) has completed certification tests on an Airbus 320neo for TaxiBot, its semi-robotic pilot-controlled vehicle for dispatch towing.

The TaxiBot reached its maximum

speed of 23 knots, performed multiple turns at different speeds and tight turns at low speed. An engine start of one and both engines of the A320neo during TaxiBotting was performed satisfactorily, as were other tests conducted by Airbus test pilots.

Airbus SVP of Engineering Robert Lafontan said that following the successful completion of the final certification tests for the A320 with the TaxiBot, the formal EASA approval is expected at the beginning of 2017.

"The successful certification of the A320 is an important milestone for the TaxiBot program. Adding the certification of the A320 family to the already certified B737 family covers 70 percent of all the worldwide commercial airlines flights, which could be provided with TaxiBot service," IAI director of civil robotics Ran Braier said.

## Mumbai Becomes First Airport in India to Introduce Self Bag Drop

SITA's Scan&Fly bag drop units were introduced at Mumbai's Chhatrapati Shivaji International Airport, the country's second busiest airport. The Scan&Fly units allow passengers that have already checked in online to quickly tag and drop their baggage before heading directly to the gate. The units are available to passengers of Air India, Jet Airways, SpiceJet, GoAir and Indigo.

"Travelers globally have shown a strong preference to use technology to help them through their journey," said Maneesh Jaikrishna, SITA vice president, India and Subcontinent.



## JSI Solutions, Inc. Achieves Aerospace Quality Certification

JETechnology Solutions, Inc (JSI), a manufacturer of aircraft ground support equipment, announced it has achieved ISO 9001:2008; AS9100C aerospace quality management system certification. The AS9100C certification, issued by SAE International, is the highest of global standards for quality assurance in the Aircraft, Space and Defense (AS&D) industries. It combines quality standards for both European and US aerospace manufacturing.

"JSI is thrilled to have earned this certification," president of JSI Adrian Little said. "Obtaining our certification was also a strategic business decision as it should lead to an increase in JSI market share in the aerospace industry that is forecasted for strong growth with the incoming administration."

## ► PEOPLE

### Vanderlande Appoints Brunschwiler CEO

Vanderlande announced the appointment of Remo Brunschwiler as the new CEO as of Feb. 1. He will succeed

Govert Hamers who has reached the age of retirement. Hamers will remain at Vanderlande until the middle of this year to ensure a smooth handover process.

Brunschwiler was born in Switzerland and started his career in 1984 as a strategic planner at Ciba-Geigy's headquarters in the country. Remo's first CEO role came with his appointment to Swisslog Holding AG in 2003, where he remained for 10 years. In 2013, he took up the same



position at Selecta Management AG.

"I am delighted to join Vanderlande and contribute to the ongoing development of the company. The management team under the leadership of Mr. Hamers has done an excellent job to position Vanderlande as a market leader for logistic process automation," Brunschwiler said. "Due to my previous logistic industry experience, I've admired Vanderlande's developments and achievements to date. It will be a fresh challenge for me to lead the company into the next phase of its growth."

### Holder Named Head of Airport Technology at the Goldhofer Group



Lothar Holder is the new head of airport technology at the Goldhofer Group of Companies. In the future, the Goldhofer Group

will be operating on the market in two business fields - Transport Technology and Airport Technology - each headed by its own board member.

On Jan. 1, 2017, Holder assumed responsibility for airport technology as member of the board at Goldhofer Aktiengesellschaft and managing director at its subsidiary Schopf Maschinenbau GmbH. Holder spent many successful years working in various management functions at home and abroad for the Daimler Group. In the last three years, following his departure from Daimler, Holder was COO at Schulz Group GmbH of Ravensburg, where his responsibilities included the introduction and development of alternative drive technologies for commercial vehicles.

### Vestergaard Appoints Larsen, Barsoe

With effect from Jan. 1, 2017, Anders Larsen is appointed chief sales officer of Vestergaard Company. With a background as a mechanical engineer, Larsen originally started with Vestergaard as a



development engineer, but for the latest several years, has mainly been involved in sales. His unique technical

background ensures the customer the best advice and services in the procurement of Vestergaard Company's palette of Ground Service Equipment.

Also with effect from Jan. 1, 2017, Lars Barsoe is appointed vice president sales



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and marketing. With his background in economics and his many years of international sales and management experience, Barsoe



takes over the responsibility for a number of the company's dedicated distributors and agents. Barsoe also has the overall responsibility for Vestergaard Company's marketing efforts worldwide.

"With these two appointments, we ensure the best possible conditions for the continued international development of Vestergaard Company," says Stefan Vestergaard, the company's CEO.

**Stiansen Joins JLG as Director of Marketing, Americas**

JLG Industries, Inc., an Oshkosh Cor-

poration company and a global manufacturer of aerial work platforms and telescopic material handlers, announced Jennifer Stiansen joined the company as director of marketing for the Americas, access segment. In her new role, Stiansen will lead all marketing and communications initiatives for the North American and Latin American regions.

"We are excited to welcome a professional of Jennifer's caliber to JLG," said Alan Loux, vice president - global marketing. "She brings more than 20 years of marketing communications experience to



her new assignment, along with the leadership skills to make a valuable contribution to our organization's growth strategy."

Prior to joining the access segment at JLG Industries, Inc., Stiansen served as marketing communications manager for several brands, on both the manufacturer and agency sides, managing advertising, public relations, internal communications and digital marketing.

**Judge Joins Malabar Sales Team**

Malabar International welcomed Frank Judge as its new senior vice president of business development at Malabar's worldwide headquarters in Simi Valley, CA. Judge has more than 25 years of experience in the aviation industry.



"With Malabar's and DAE's continued growth, we are pleased to have Frank bring his industry and management experience to support our expanding product lines. He brings valuable expertise and leadership to both our U.S. and international sales efforts," said Dennis Suedkamp, executive vice president, sales and engineering.

Prior to joining Malabar, Judge held various technical and executive positions with companies including Florida Power Corporation, GE Aircraft Engines and AGSE/Westmont Industries Group.

**▶ NEW DEALS**

**Triton GSE and PAGE Industries Sign Global Distribution Agreement**

Triton GSE, Inc. and PAGE Industries, Inc. announced the signing of a global distribution agreement for the manufacture and sale of select ground sup-



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port equipment. Within the multi-year framework, each company will bring to its respective markets the complementary products of the other to provide aviation customers access to a range of ground support equipment capable of lifting and moving baggage.

“With PAGE as our distribution partner, we increase our presence in the major aviation markets of the world,” said Perry Jasin, CEO of Triton GSE, Inc.

“Our goal is to add more products to our offering as we expand our customer base,” said Brian Piety, president of PAGE Industries.

**Global Aviation Services Awarded GSE Maintenance Contract from Delta Air Lines**

Air T, Inc. announced that its subsidiary,



Global Aviation Services, LLC (Global), was notified by Delta Air Lines (Delta) that Global had been awarded a five-year contract for 28 locations in connection with Delta’s 2016 ground support equipment (GSE) maintenance RFP process.

The total annualized revenue of the new award and services at other Delta locations not part of the 2016 RFP process is anticipated by Global to be approximately \$8.1 million, compared with annualized revenue under existing arrangements with Delta of approximately \$3.5 million.

In the award, Global retained 21 of 22 incumbent locations included in the RFP process and added seven new locations,

including the maintenance of the baggage handling system (BHS) and passenger boarding bridges (PBB) for Delta’s hub operation at the Minneapolis–St. Paul (MSP) airport.

Resulting from the award, Global will have more than 90 technicians serving Delta in 44 locations.

**Kruckeberg Announces Management Agreement with Stinar**

Holding and management company Kruckeberg Industries has entered into





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a management agreement with GSE supplier Stinar Corporation. Under the agreement Kruckeberg will provide management and oversight services of Stinar's day-to-day operations.

This represents Phase I of Cooperation leading to an eventual acquisition of Stinar by Kruckeberg Industries.

"The Kruckeberg team is pleased to have the opportunity to work with Stinar to move the company forward," said Craig Kruckeberg, CEO of Kruckeberg Industries.

Kruckeberg has begun Phase II of Cooperation having submitted a purchase agreement to Stinar Corporation. The document is pending thorough financial review and due diligence efforts. The companies intend to complete the acquisition in the near future.

### Air Caraïbes Atlantique Signs ULD Management Agreement with CHEP

Air Caraïbes Atlantique, the transatlantic carrier of the French Caribbean, has chosen CHEP Aerospace Solutions, a global provider of



outsourced Unit Load Device (ULD) solutions, to supply and manage containers and pallets for its growing aircraft fleet.

Air Caraïbes currently operates five Airbus A330 aircraft and will shortly be adding three A350s to fly to transatlantic destinations for Air Caraïbes Atlantique and its recently launched French Blue brand.

The new four-year agreement with CHEP includes the supply of containers and pallets for these new aircraft and the transition of the existing container fleet to CHEP's lightweight containers within the first year.

### Groupe CRIT Acquires Cobalt Ground Solutions

Groupe CRIT, through its subsidiary Groupe Europe Handling, announced the acquisition of Cobalt Ground Solutions, a subsidiary of Air France-KLM and third largest ground handling services provider at London Heathrow airport.

This transaction results from the letter of intent whose signing was released on Nov. 28, 2016.

Cobalt Ground Solutions provides full ground handling services on Terminals 3 and 4 of London Heathrow Airport.



### Rockwell Collins Acquires Pulse.Aero

Rockwell Collins acquired Pulse.Aero Limited, a UK-based company specializing in self-service bag drop solutions and airline applications, to enhance the company's passenger processing services for airports and airlines.

The companies have worked together on other successful deployments, including Dublin Airport, where self-bag drop units were installed.

"As passengers seek to take more control of their travel experience, this acquisition expands our portfolio of self-service passenger processing solutions, enabling us to streamline and simplify the passenger journey through a fully connected airport," said Dave Nieuwsma, senior vice president, information management services for Rockwell Collins.

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# INTERNATIONAL AIRPORT GSE EXPO

## DATES ANNOUNCED FOR 2018/2020 INTERNATIONAL AIRPORT GSE EXPOS

Event returns to Rio All Suites Hotel and Casino, Las Vegas, for 2018 and 2020

The International Airport Equipment Manufacturers Association (IAEMA) and *Ground Support Worldwide* magazine will continue their partnership to produce the world's largest GSE-only Expos in 2018 and 2020. The International Airport GSE Expo will be held October 2-4, 2018 and October 20-22, 2020. The Rio All Suites Hotel and Casino, Las Vegas, will host both events.

"Based on the overwhelmingly positive feedback from exhibitors and attendees at our 2016 Expo, we have contracted with the Rio for our next two events to provide the best possible dates and room rates for our guests," says Sue Ralston, show director, International Airport GSE Expo.

The 2016 Expo drew nearly 2,400 industry professionals and marked the inaugural event co-presented by IAEMA and *Ground Support Worldwide* magazine. Ralston says the two partners plan to enhance the attendee/exhibitor experience with improvements ranging from longer registration hours, improved traffic flow, to expansion of the outdoor exhibit space and live-demonstration areas.

"We will continue to have all indoor exhibits located in the temperature-controlled, temporary building space, providing close proximity to the outdoor equipment displays and demonstration areas," Ralston adds.

Floor plan and space application process is expected to begin later this spring, with booth assignments to follow shortly thereafter.

Ralston encourages attendees to look for 2018 GSE Expo information in *Ground Support Worldwide* magazine and its portal website, [AviationPros.com](http://AviationPros.com).

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# When is it Best to Outsource Ground Handling?

The pros and cons of utilizing third-party providers, as well as contract negotiations and other challenges, must be weighed in order to make an informed decision.

*By Jen Bradley*

The outsourcing of ground handling is a common occurrence at today's airports. The practice is far from simple, though, as the wide variety of tasks can range from aircraft cleaning and maintenance to fueling, baggage handling, deicing and even passenger check-in. Additional staff, security clearances and physical space for both people and equipment are challenges to airports that outsource ground handling – as is maintaining a consistent level of customer service for passengers.

Executives at McCarran International Airport (LAS) in Las Vegas, have addressed this through a request for quotation (RFQ) process, limiting the number of ground handling providers, as well as setting guidelines that mutually benefit all parties: airport, airline and ground handler.

“For any new airline, it's an easy start-up process,” says Phillip A. Detmer, aviation affairs manager at LAS. “The airline chooses one of the ground handlers and then works directly with that service provider to determine their needs.



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With this arrangement the airport doesn't require a separate operating agreement with the airline, and all billing can go through the ground handler."

## Shopping Around

Two days before Christmas in 2013, world-wide ground handling company Swissport finalized its acquisition of Servisair, another popular ramp, passenger and cargo handling name in the industry. Together, they created a cargo handling giant, as Servisair had operations at 175 airports alone. Today, Swissport is active in 48 countries and 280 locations. This merger was important to the management at LAS, who were left with one ground handling option to offer airline tenants.

This proved a problem to the airlines at LAS, who asked for competitive shopping for their ground handling needs, in order to see if they were getting a good deal or not. An RFQ was drawn up and two additional providers (ASIG and EVO Jet Services) were chosen to fill the spots by a panel that included several airline representatives. The evaluation criteria included topics such as:

- Qualifications and experience (must have a minimum of three continuous years of experience within the past five years).
- Identification and experience of key employees, and if a local office exists.
- Customer service (complete plan for service, operational policies, employee practices and appearance, staffing plan, equipment and safety measures, handling complaints).
- Employee benefits.
- Financial and business capabilities.

Christine Crews is the public information administrator at LAS, which is owned and operated by the Clark County Department of Aviation. She says that when a new airline (such as their most recent, China's Hainan Airlines) needs to staff ground handlers, but is only flying to Las Vegas two or three times per week, outsourcing allows for full-time employees and consistency in staffing.

Conversely, Southwest lands a flight every 15 minutes at LAS, she says, offering up the market-leader as an example of an air carrier that uses its own employees for ground handling.



"The third-party ground handlers here have a full-time staff that services multiple airlines," Crews explains. "If you offer someone a position in which they may only be working a few hours a day for the three days a week that an international carrier has service in and out of Las Vegas, it makes it really hard to retain those employees. Most people are looking for full-time work and a living wage." She says that this setup provides less turnover, a better workforce and sustainability all around.

## Contract Terms

When it comes to ground support contracts, Jeff Davis, general manager at Wisconsin Aviation, says vendors shouldn't be afraid to negotiate, especially if their airline clients have a standard contract for ground handling services.

Wisconsin Aviation is a full-service provider of general aviation services including air charter, flight training, aircraft rental, aircraft sales and management, maintenance, avionics, interiors and line services. He explains that both sides must gain value from the relationship, while understanding the airline needs to save money and the provider needs to make a profit. He says contracts with ground handling providers should include what happens if a delayed flight has a labor force waiting on it, or additional equipment is needed last minute.

Davis says he can't speak for the industry entirely, but explains this is a best practice his team uses.

"The airline will send their boilerplate contract, which is a great foundation, but you really need to go through with a magnifying glass and say if you can or can't do something, and certainly look closely at the insurance requirements," he says.

When it comes to liabilities, Davis says the following questions must be answered in a contract:

- If an aircraft is damaged during ground handling, what is a third-party service provider liable for?
- Is a ground service provider liable for the repair in addition to the downtime of the aircraft?
- Is a ground service provider responsible for the loss of revenue?
- If the value of the aircraft is diminished, is the service provider liable for that?

Davis says these things will depend on the agreement determined by both parties, but feels the ground handlers "should have some skin in the game." He says only then do both groups have equal weight in keeping operations running smoothly.

McCarran Airport's Detmer says the ground handlers at LAS have 10-year agreements and are allowed to subcontract no more than 25 percent of their total services. This is limited as well, to aircraft maintenance, ground support equipment maintenance, aircraft fueling, ground support equipment fueling, catering and wheelchair services.

"We recognize that there are some services they may need to subcontract, and we

give them that flexibility,” adds Crews of LAS.

Most often, Detmer says, these subcontractors are established vendors and must be approved by the airline(s) the ground

support provider is working for.

## Challenges

“Labor is an airline’s largest expense,” says Wisconsin Aviation’s Davis. “A lot of people

think it’s fuel and fuel is barely half of what the average labor expense is.”

He says he can see how it can be a lot more cost effective for an airline to contract out its above- and below-wing services, even ticket countering and ramp handling. Dane County Regional Airport in Madison, WI, is considered a small hub and Wisconsin Aviation is one of the ground handling providers at this location, which is ranked as the third largest full-time employer in the county.

Davis says he’s seen ground handlers try to “bare bones” their staff over the years, which brings on a host of problems, the first being safety of the ground handlers.

“Some try and get their revenue per the contract no matter what, and look where



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to cut,” he says. “There should be a good, written contract.”

Another challenge to outsourcing ground handling is equipment costs. McCarran Airport’s Crews says it doesn’t make sense for an airport the size of LAS to have the huge variety of equipment on hand that would be needed for the wide range of aircraft which fly in each day.

Davis says ground handlers can buy top-of-the-line equipment or purchase used items to just get by – another reason a written contract is essential. LAS’s RFQ specifies what services must be provided at a minimum, but also requires a list of make, model and year of each equipment piece.

“Safety also depends on how often the

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airline sends someone to check on their vendor,” Davis adds. “They need to hire people they can trust and are going to get the job done.”

When it comes down to it, Crews says that “if you’ve seen one airport, you’ve seen one airport.” All these professionals agree that each airport and airline will have different requirements and needs when it comes to ground handling. Plane size, flight schedules and equipment are just some factors in this ever-changing industry.

Crews says that LAS is unique in that it is a 100 percent common-use operation, meaning that the airport retains rights to all gates and infrastructure as owner/operator and then space and resources are leased out to tenants. As the eighth busiest airport in North America, its experience won’t be the same (though no less important) as a smaller, regional airport like the one in

Wisconsin that Davis services.

The challenge they have in common, however, is regardless of size, the ground handlers play a huge role in image.

“We consider McCarran to be the first and last look at Las Vegas,” Crews says of LAS. “We get a lot of people that are not seasoned travelers, and may not know what’s within an airline operation.”

She says a visible example of this is people complaining on social media about waits for bags, boarding, etc.

“When we respond to those messages and explain that the airport doesn’t manage bag handling, the airline does, that detail of who is responsible doesn’t really matter to the customers,” Crews adds. “Travelers will associate this with their overall experience in Las Vegas, so we take customer service by all of our airport entities very seriously. It’s the reputation of the airport and our

community as an attractive destination at stake.” Davis agrees, and says Wisconsin Aviation’s relationships with local airports and airlines are what make the difference and what he truly enjoys about this industry.

“It’s not unheard of, if they were to get in a bind, especially with diversions or something, that we’d go over and help park planes,” he says. “If you have a ground support vendor supplying the wide range of services you’ll see in the business, then they will also be the face of that airline.” **GSW**



▶ ABOUT THE AUTHOR:

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# A SHIFT IN TEC

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**Electronic transmissions installed in GSE provide safety features like collision avoidance, which reduces damage to aircraft on the ramp.**

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*By Josh Smith*

Limiting damage to an aircraft while it is on the ramp is a priority for both airlines and ground support personnel. Yet, significant costs associated with ground damage are incurred by airlines on an annual basis.



# TECHNOLOGY



*When IATA updated Chapter 9 of its Airport Handling Manual to stipulate that belt loaders and other types of ground support equipment would need anti-collision technology installed on them, companies like Textron GSE utilized an electronic transmission to help achieve that capability.*

*Photo courtesy of Textron GSE*





As a result, industry leaders sought ways to incorporate anti-collision abilities into their ground support equipment. And when the International Air Transport Association (IATA) updated its Airport Handling Manual (AHM) to include language requiring anti-collision capability in belt loaders, cargo loaders, passenger stairs and catering trucks, the urgency to find a solution increased.

While mechanical devices can be installed on pieces of GSE to limit abuse and reduce damage to aircraft on the ground, people like Dan Boucher, president at Powertrain Control Solutions (PCS), urged equipment manufacturers to rethink the transmission being used.

PCS has produced transmission control modules for vehicles since 2003, primarily in the military segment. However, about three years ago, PCS discovered they were a good fit for GSE manufacturers looking to solve issues arising from operators abusing equipment.

GSE with a hydraulic transmission has been used for decades. But with a hydraulic transmission, when the operator moved the shift lever into forward, the transmission would shift into forward – whether it was safe to do so, or not. Drivers might shift from reverse to forward while the vehicle was still moving backwards or perform other maneuvers that damage the transmission and other components like the drive

shaft and rear end because of the shock put on the vehicle.

“Airlines started to identify this as an issue,” Boucher says, noting mechanical devices that required the brake to be applied in order to shift into gear could be incorporated in an attempt to limit this damage.

“What we determined was all this abuse protection that the airlines needed, could be accomplished inside the transmission with the calibration and valve body,” he continues. “All the functionality that external equipment provided, we were able to implement inside the transmission.”

An electronic transmission reduces the wear and tear on the axle, suspension and other components in the driveline of a vehicle that is generated from shifting when it’s not safe.

What’s more, an electronic transmission gives the operator the ability to inch the GSE forward or backward while standing next to the equipment, and improved fuel economy can be achieved thanks to a neutral idle function.

Perhaps most importantly, advanced safety capabilities become available. As an example, the transmission, when connected to a position reporting module, could provide geo-fencing abilities that limits the speed of the vehicle based on where it is being operated.

“If you’re near an aircraft, all you have is first gear,” Boucher says. “Whereas, if you’re

▲ ***TUG’s Smart Sense sensors, located at the front of the belt, detect the distance to the aircraft. As the belt continues to get closer to the aircraft, the sensors work in concert with the vehicle’s transmission to prevent the belt from being driven into the airplane.***  
Photo courtesy of Textron GSE

out on the ramp and can safely operate the vehicle at higher speeds, the transmission will shift into higher gears so you can go faster.”

All of these features protect the investment of the GSE purchaser.

“It really changes the personality and the possibilities of the vehicle once you get the electronic transmission,” Boucher says.

According to Boucher, many GSE manufacturers in the United States have adopted the technology afforded by electronic transmissions. But because of the size of the global GSE fleet, and the fact that hydraulic transmissions are still available in remanufactured units, many units do not utilize an electronic transmission.

“I think the reluctance to it is hydraulic transmissions have been used for decades. People who have spent lots of time in GSE only know the hydraulic transmission, and though it may have its limitations, they know what those are. They’re comfortable with it, and they know how to service it,” he

says. "So, I think there's some hesitation to just switching to something new."

## IATA Airport Handling Manual Update

Electronic transmissions provide a new level of technology and safety that hadn't been in the ground support industry previously. That may be reason enough for many to adopt the technology.

But when IATA updated Chapter 9 of its Airport Handling Manual (AHM) to stipulate that belt loaders and other types of ground support equipment would need anti-collision technology installed on them, the onus on adopting the technology increased.

IATA's AHM sets goals for the industry. In the United States, it is not required to meet the AHM specifications, but it is viewed as a serious reference document

Chapter 9 of **IATA's AHM requires** that by July 2018, all new belt loaders have some type of **anti-collision technology installed** on them. Additionally, by July of **2020**, the belt loaders in the field **need to be retrofitted** with this technology.

that most people in the industry adopt. In Europe the AHM is treated even more earnestly.

GSE program manager at Air Canada, Bill Bender, who serves as the chairman of IATA's Ground Support Equipment and Environment (GSEE) Task Force, said the significant cost of aircraft damage within the industry was one of the major reasons for adding language encouraging manufacturers to provide anti-collision technology.

"That was a driving factor for the enhancements that we added to the GSE section of the AHM, Bender says, referring to AHM section 910, 913 and 925. "It was the cost of ground damage and employee safety."

Among other items, Chapter 9 of IATA's AHM requires that by July 2018, all new belt loaders have some type of anti-collision technology installed on them. Additionally,

# Simple Complexity



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by July of 2020, the belt loaders in the field need to be retrofitted with this technology.

IATA's GSEE Task Force writes functional requirements for ground support equipment, explains Scott Barninger, director of GSE at Piedmont Airlines and GSEE Task Force member.

"It's not really a technical, engineering design document," he says. "It's just a functional specification."

Barninger, who also serves as vice chairman of the SAE AGE-3 Technical Committee, adds that the SAE writes standards that are directed toward manufacturers and the design of the equipment specifically.

"From the airline side, we're very interested in getting this technology out there," Barninger says, noting Piedmont Airlines is putting a belt loader with collision-avoidance technology into operation at its Richmond, VA, location.

Three years ago, Bender explains, the Airside Safety Team at IATA came to the GSEE Task Force and asked for enhancements to the standards of GSE that would encourage the development of anti-collision technology to reduce GSE damage to aircraft.

"We wrote it in such a way that it left it open for the individual manufacturers to develop competing designs and produce the best product," Bender says.

"We started it with four pieces of equipment that interface with the aircraft – belt loaders, container loaders, passenger stairs and catering trucks," he adds. "We added this section to each one

of those standards to help encourage development of collision avoidance or ground damage reduction."

Bender says the GSEE Task Force knew the challenge was going to be incorporating this technology on conventional drive train units, like those found on a belt loader.

"With the introduction of electronically controlled transmissions, it has allowed some new ideas and technology to come into play that will allow us to control the speeds of this equipment down to a very slow speed, which helps with damage reduction," says Bender, whose airline is performing an analysis of a belt loader with anti-collision technology at its operation in Toronto.

"I think it's key that you're reducing speed," agrees Barninger. "You're reducing the energy of the vehicle approaching the aircraft. Even if the technology ultimately fails and permits a contact with the aircraft, you've reduced the energy so much that you really minimize any damage."

In addition to limiting aircraft damage, another critical part of promoting this technology is employee safety and injury prevention.

"By reducing speeds and eliminating – or reducing – the risk of damage, operators don't put themselves in a risky situation," Bender says.

## Technology in Action

With electronic transmission technology available, and IATA's airport handling manual requiring the use of collision avoidance, many manufacturers have begun implementing its use.

TUG, which is part of Textron GSE, utilizes the electronic transmission produced by PCS in its 660 Belt Loader.

"Because we have our technology in the transmission, we can stop the vehicle, we can slow the vehicle" Boucher of PCS explains.

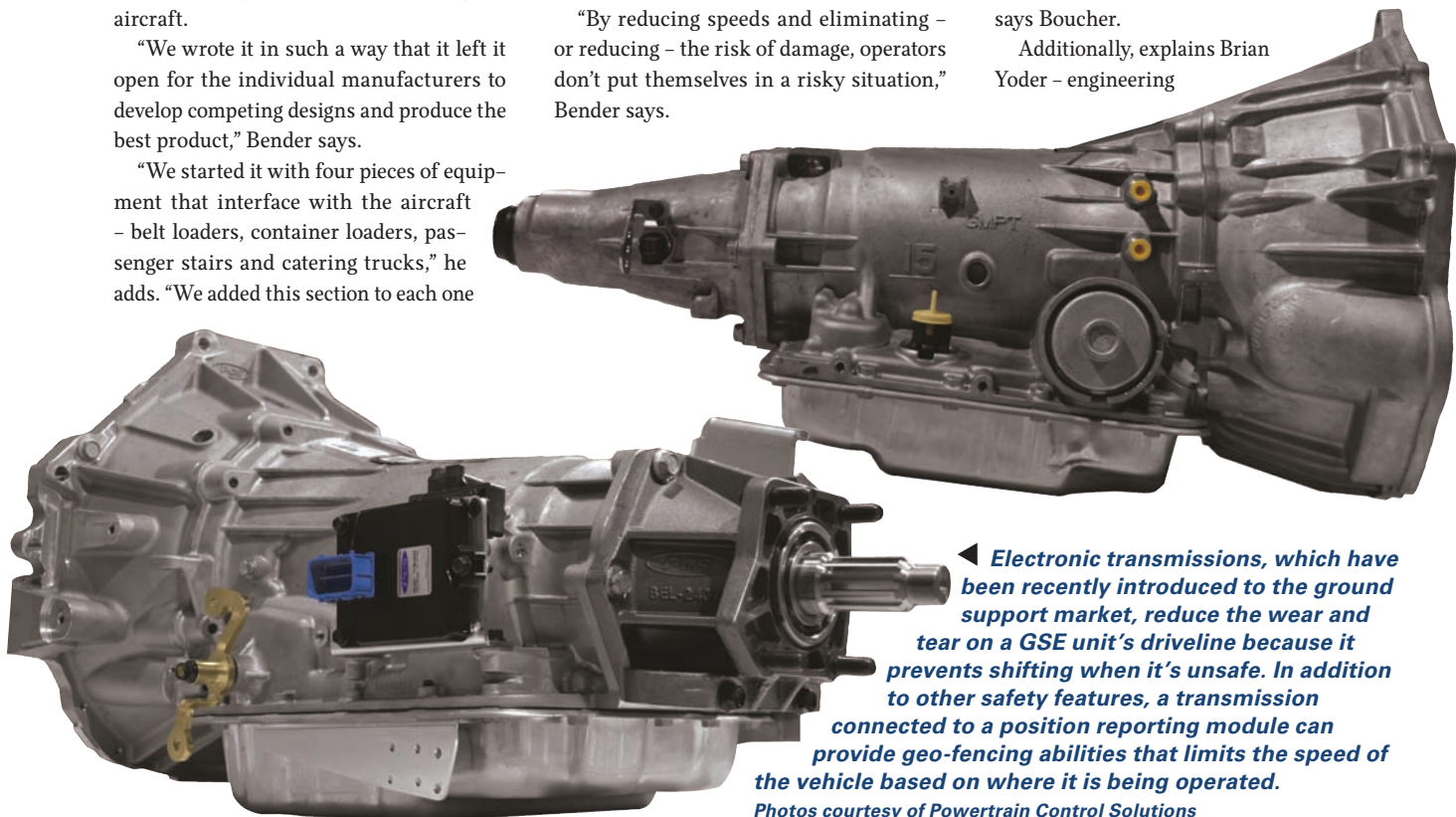
The transmission works in concert with sensors, which TUG calls Smart Sense, located at the front of the belt that detect the distance to the aircraft.

"When you are close to the aircraft, it limits your speed," Boucher says. "When the belt is up, your speed is limited to essentially a walking speed."

As the belt continues to get closer to the aircraft, the sensors prevent the belt from being driven into the airplane.

"If you come closer than the programmed distance, it will stop the vehicle and not allow you to drive forward anymore," says Boucher.

Additionally, explains Brian Yoder – engineering



◀ **Electronic transmissions, which have been recently introduced to the ground support market, reduce the wear and tear on a GSE unit's driveline because it prevents shifting when it's unsafe. In addition to other safety features, a transmission connected to a position reporting module can provide geo-fencing abilities that limits the speed of the vehicle based on where it is being operated.**

*Photos courtesy of Powertrain Control Solutions*



director at Textron GSE, the TUG 660 Belt Loaders equipped with the Smart Sense system provide additional safety features.

Among others, they include parking brake and foot brake shift inhibit; speed limiting with the conveyor raised; automatic stopping if the operator leaves the seat while driving; and a system reset required when the operator speeds or leaves the seat.

"This drives good behaviors," Yoder explains.

The first TUG belt loaders with Smart Sense were delivered in August of 2016. Smart Sense is currently optional on the company's belt loaders, and an aftermarket kit is available for TUG 660 units currently in the field.

Yoder says feedback on the TUG 660 with Smart Sense has been positive.

"We were able to deliver exactly what our customers were looking for to prevent accidents on the ramp," he says. "To ensure a seamless transition for the operators in the field, Textron GSE sends engineers to meet with each new Smart Sense customer when they receive their first unit. We make adjustments to the system in order to make sure it works perfectly in their operation and provide training for the operators."

Perhaps the most important feature of the Smart Sense system, Yoder notes, is operator behavior is being adjusted rather than automating the vehicle.

"The system actually encourages actions that should be taking place on a regular belt loader, instead of teaching operators irresponsibility when approaching aircraft," he says. "There are thousands of belt loaders in operation around the world, so it's important that we introduce a system that maintains a consistent method of operations."

The result will ideally be fewer accidents on the ramp, and hence a safer work environment.

That is the goal Textron GSE, PCS and IATA are trying to achieve.

"This was a big need in the industry. We had a lot of people asking about what we can do," Boucher says. "And we're in the business of making controllers that solve problems. So when we heard that the industry was looking for a solution, we started looking at it, and had some prototypes in development."

In an effort to "modernize the GSE fleet," Boucher believes getting information to the end-users is key because of how much technology has advanced.

"It doesn't have to be scary. It doesn't have to be expensive," he says. "In fact, when you

calculate the value of what technology can save you in maintenance and costly downtime, it's a win-win for the airline or service provider from both a time and operation perspective and the bottom line." **GSW**



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## The Power of Lithium

Harlan's lithium battery-powered tractors have helped WestJet and Air Canada improve air quality in bag rooms while continuing to operate in a harsh climate.

By Josh Smith

**W**ith a focus on environmental benefits and possible cost savings, some ground handling operations have adopted the use of electric-powered ground support equipment.

But when stepping away from the familiarity of traditional diesel-powered GSE, making the best decision to benefit a GSE fleet can be overwhelming. For two Canadian airlines, lithium battery-powered GSE has proven to be a prudent choice.

John Moore, vice president of sales at Harlan Global Manufacturing, has worked with both WestJet and Air Canada to implement the emerging technology into their tractors in order to provide clean, durable power to GSE fleets that can operate in cold climates.

However, before harnessing the lithium battery's potential, Harlan provided hybrid tractors that could switch between diesel and lead acid battery power.

The hybrid tractor afforded some of the benefits of an electric vehicle but was backed up by diesel fuel to ensure the equipment could make it back to charging stations, which were often located in remote areas of the airport.

"A lot of time, logistically, they don't put these

charging stations in a place where they're convenient or logistically ideal in order to do the work the airlines need to do," Moore explains.

"We were trying to stretch the lead acid technology with a hybrid," he adds. "So we have an on-board generator that charges the lead acid battery out there in the middle of nowhere, and when it got back to the charger, you could plug it in as well."

Approximately five years ago, Harlan removed the lead acid battery from tractors and replaced it with a lithium battery source.

"Making a long story short, they found out using the lithium battery, they didn't need to charge it anymore with the hybrid generator," Moore says. "It was doing the job all electrically."

Able to handle the work load required without switching to diesel power, Air Canada tested a tractor purely powered by a lithium battery and found that, too, performed as needed. Changing the energy source did not detract from the work the vehicle needed to perform.

"Our electric tractor is very strong – it's the same rear axle, same major componentry," Moore explains.

Although Air Canada had originally planned to invest in the hybrid tractors, Moore says they





Photo courtesy of WestJet

saw more potential for fuel savings and green technology during the lithium tests, and ordered five tractors be converted from diesel to lithium for its location in Calgary. The airline also traded in 15 additional units to secure new lithium-powered tractors.

Likewise, WestJet is operating 29 lithium-powered units at Calgary.

## Benefits and Limitations

The electric GSE solved an issue airlines are facing at Calgary International Airport, in which the use of internal combustion (IC) engines in their bag rooms will be banned. In fact, Leigh Hoey, GSE manager at WestJet, says the primary driver of pursuing alternative powered GSE was to improve air quality for its employees in bag rooms and other areas.

What's more, lithium batteries can be charged indoors because they do not gas like lead acid models.

"If you charge a lead acid battery in a closed room, you have to have a lot of sophisticated ventilation systems, recovery of lead acid spills when it boils over – there are all kinds of things that are different to lead acid than charging lithium," says Harlan's Moore. "Lithium is a closed system. You simply charge it and discharge it. You don't have to maintain that battery. You don't have to add water."

Removing water from the equation is critical in Canada's often cold environment.

If water freezes, a battery can be damaged.

"Without an existing electric program, we deemed it made more sense to pursue newer technology lithium over lead acid due to the ability of lithium to more reliably operate in our potentially very cold climates," says Hoey.

"Lithium was sort of the only way they could go for total operation," Moore adds. "They're using these things out in blizzard conditions and -30 degree weather."

Moore says using electric GSE can provide thousands of dollars in fuel savings annually, especially compared to diesel tractors that are often left idling on the ramp in order to combat frigid temperature conditions.

"They'll idle all day, and that's a lot of money," he notes. "It's a greener ramp, and it's quieter out there with lithium."

Hoey points out that the extreme cold weather Canadian stations face can have an effect on lithium powered GSE units, too, especially when left unused outdoors.

"But generally, the unit can be moved indoors to warm up and it will recover without issue," he says.

Hoey says finding qualified technicians has been a challenge, but believes as electric vehicles become prevalent, the issue will diminish.

From a design standpoint, lithium offers added versatility. Lithium batteries can be installed at the back of the tractor where

lead acid batteries are typically housed, or they can be installed under the hood on a conventional design tractor.

"A lot of safety departments like that for standard operating procedure," Moore says. "I can convert old tractors to the lithium electric in that old frame. And I can give you a new frame that looks and feels like a diesel – but it's not. You can't do that with lead acid."

## Battery Charging Requirements

Properly charging the lithium batteries is critical, but that can be done quickly with the right infrastructure in place.

"If you have the charging ability, you can charge a lithium from zero," says Moore of Harlan, adding that's rarely the case, as Air Canada put the technology through extensive testing and rarely returned the equipment with less than a 50-percent charge.

While Moore is confident in a lithium battery's capacity, the charging infrastructure is crucial to getting the most out of electric vehicle technology.

"You can go out and spend a lot of money on batteries. But if you don't have the ability to charge it, or there is no power to charge, you have a problem," he says.

In Calgary, the desire was to set up the electric fleet similar to the way electric cars are supported in public places.

"We came up with an on-board charger



that works like a golf cart,” Moore says, noting it will work on a 110 or 220 circuit, and in Air Canada’s case a 208. “That didn’t necessitate a huge rebuild for infrastructure for chargers.

“So essentially, you have a charging station,” he continues. “Now, the charger is on-board the tractor. But the technology to turn it on and off is in an EV charger, compliant to SAE J1772, which is for charging electrical vehicles like cars.”

Utilizing the charging technology that’s becoming common in the automotive world has created a safe, common charging solution for workers to use at the Calgary airport.

Other airlines are already using several types of fast-chargers for lead acid batteries. Those same chargers can be programmed to service the lithium batteries that power Harlan’s electric tractors.

► **John Moore of Harlan Global Manufacturing shows off the first of 25 lithium-powered tractors ordered by Saudi Ground Services.**

“Invest in fast charging solutions, either stand alone or on-board charging via EVSE,” WestJet’s Hoey advises. “Be sure to understand the actual running hours required so you can size batteries appropriately.”

### **Additional Considerations**

For electric-powered GSE fleets, including



Photo courtesy of Harlan Global Manufacturing

units that utilize lithium, the ease of implementation varies depending on the size of an operation.

A small station, with wall service, could have an electric tractor up and running

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within 90 days of making the decision to go electric, Harlan's Moore says. However larger stations that may need significant charging infrastructure installed could take up to a year.

"It depends on what you're doing. There's no cookie cutter approach," Moore says. "I think nine times out of 10, you have the electrical power to run a few baggage tractors or belt loaders there at that station already."

Small operations, adds WestJet's Hoey, can easily run with less capacity, especially if taking advantage of opportunity charges between flights. With smaller batteries required, initial costs can be reduced.

However, after seeing air quality for employees improve and GSE maintenance costs decrease, Hoey urges others not to be afraid of the upfront costs of implementing a lithium-powered fleet.

"The long-term reliability has been quite good and, with each new generation of batteries and products, reliability increases," he says.

The **long-term reliability** has been quite **good** and, with each new generation of batteries and products, **reliability increases.**

— Leigh Hoey, GSE manager at WestJet

If possible to implement, Moore believes electric GSE technology is "the only way to go."

While lithium-powered GSE requires maintenance, he says those requirements are significantly less than that of an IC machine. Moore says that's an added bonus for airports that lack GSE maintenance infrastructure or for operations that choose to outsource equipment maintenance.

Additionally, pushes for greener technology makes lithium technology more attractive.

"It's all about cost," he explains, noting 25 more Harlan lithium tractors have been ordered by Saudi Ground Services. "If my engine goes for three or four times what it used to, and I can do it with electric – and simplify the design and the maintenance – you're getting pressure from all sides to go that route." **GSW**

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*Safety management systems have become mandatory for airlines in Europe, which require their ground service providers to implement more thorough forms of safety reporting.*

*Photo courtesy of Riga International Airport*

## Europe's Eye on Safety

Regulation (EU) No. 376/2014 and Commission Implementing Regulation (EU) 2015/1018 serve different, yet complementary, purposes to ensure ground handlers across the continent report dangers and operate safely.

*By Mario Pierobon*

**W**ith the applicability, as of November 2015, of Regulation (EU) No. 376/2014 and Commission Implementing Regulation (EU) 2015/1018 dealing with the reporting, analysis and follow-up of occurrences in civil aviation, aircraft ground handling companies in Europe are being more consistently requested to contribute to a European central repository of safety information that includes both mandatory and non-mandatory occurrence reports.

This requirement is set to establish some critical mass for ground handling companies to further enhance their safety management systems (SMS) by

means of an increased scrutiny on safety reporting.

The two regulations serve two different, yet complementary, purposes.

- Regulation (EU) No. 376/2014 provides for the requirements of the various different stakeholders, namely the European Commission, the European Aviation Safety Agency (EASA), the various European national aviation authorities (NAA) and the individual aeronautical service providers – including aircraft ground handling companies, in terms of what they are to do to sustain the development of a pan-European system of safety information collection, consolidation and dissemination.



• Commission Implementing Regulation (EU) 2015/1018 provides a list classifying occurrences in civil aviation to be mandatorily reported in accordance with Regulation (EU) No 376/2014.

Annex IV of Regulation (EU) 2015/1018 provides a list of occurrences related specifically to aerodromes and ground services. These are classified under two main headings: 'safety management of an aerodrome' and 'ground handling of an aircraft'.

Under 'ground handling of an aircraft,' a series of ground handling specific occurrences is determined that aircraft ground handling companies need to memorize and mandatorily report when experienced. This list is more comprehensive than the list of ground handling reportable occurrences that was applicable before Regulation (EU) No. 376/2014 and Commission Implementing Regulation (EU) 2015/1018 became applicable.

The list includes the incorrect handling or loading of passengers, baggage, mail or cargo, likely to have a significant effect on aircraft mass and/or balance (including significant errors in load sheet calculations); boarding equipment removed leading to endangerment of aircraft occupants; incorrect stowage or securing of baggage, mail or cargo likely in any way to endanger the aircraft, its equipment or occupants or to impede emergency evacuation; and the transport or attempted transport or handling of dangerous goods which resulted, or could have resulted, in the safety of the operation being endangered or led to an unsafe condition – for example, dangerous goods incident or accident as defined in the ICAO Technical Instructions for The Safe Transport of Dangerous Goods by Air (ICAO – Doc 9284).

Other mandatorily reportable ground handling occurrences include:

- The non-compliance on baggage or passenger reconciliation.
- The non-compliance with required aircraft ground handling and servicing procedures, especially in deicing, refuelling or loading procedures, including incorrect positioning or removal of equipment, significant spillage during fuelling operations, the loading of incorrect fuel quantities likely to have a significant effect on aircraft endurance, performance, balance or structural strength



◀ **An example of ULD mismanagement is pictured. This was reported during an inspection and investigated. As a result, the process was redesigned for better ULD management.**  
Photo courtesy of Air Malta

and the loading of contaminated or incorrect type of fuel or other essential fluids (including oxygen, nitrogen, oil and potable water).

The following occurrences are also to be reported:

- Failure, malfunction or defect of ground

equipment used for ground handling, resulting into damage or potential damage to the aircraft – for example: tow bar or GPU.

- Missing, incorrect or inadequate deicing/anti-icing treatment.
- Damage to aircraft by ground handling

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equipment or vehicles, including previously unreported damage and any occurrence where the human performance has directly contributed to, or could have contributed to, an accident or a serious incident.

Thanks also to the fact that SMS have become mandatory for airlines in Europe and that these are increasingly demanding that their ground service providers implement more thorough forms of safety reporting, this

practice on the ramp is already improving in the experience of aircraft ground handling companies.

According to Joseph Zammit, head of ground handling at Air Malta – which self-handles at its main station at Malta International Airport, safety reporting has increased significantly due to the SMS framework and its promotion. He highlights some data from Air Malta's main station where in 2014, the introductory year, there were 26 reports; these increased to 61 in 2015 and reached 52 at the end of November 2016. According to Zammit this is a steady increase that denotes the proactivity of well informed and trained ramp employees to come forward and start alerting safety concerns to management.

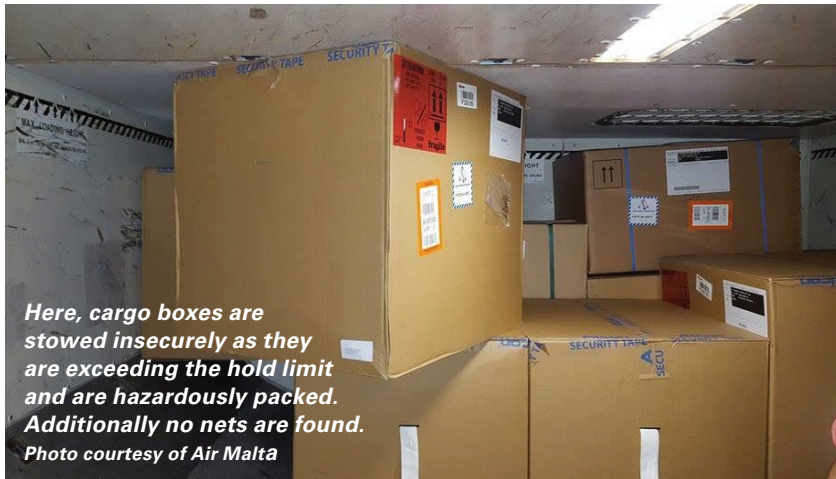
An increase in safety reporting is a consequence of efforts that have been committed to promote a just culture in the ground handling environment.

"There are enough civil aviation legislation frameworks that protect and develop a just culture environment in aviation and its related ground service habitat," says Zammit. "What is required is a further push towards better communication, training initiatives and a wholesome effort by all post holders towards the protection of employee trust and a development of preventive actions that are beneficial to both operative staff and management."

"In our case, the senior management is confident that we follow the principles of a just culture. The safety policy also confirms this," says Laura Karnite, a spokesperson for Riga International Airport in Latvia. "There is a need to ensure that, in cases of a safety incident, it is first evaluated why the incident occurred; and only in cases where it is due to intentional negligence, action should be taken".

While SMS is developing a critical mass within ground handling companies, it has an effect of increased reporting. SMS is still underdeveloped when compared with other more proactive domains of the aviation business such as flight operations. Indeed, there are barriers that are preventing safety reporting systems of European aircraft ground handling companies from developing their full potential.

According to Karnite, it should be taken



Here, cargo boxes are stowed insecurely as they are exceeding the hold limit and are hazardingly packed. Additionally no nets are found. Photo courtesy of Air Malta



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► **Inadequate safety cones should be removed from airside operations and replaced with new ones conforming with required industry standards.**  
Photo courtesy of Air Malta



into consideration that it is not only the aircraft ground handling companies that are operating in an environment where the safety management system operational framework applies. There are plenty of organizations – especially small organizations – that work in the safety sensitive environment of aircraft ground handling but do not participate directly in the aircraft servicing.

“However, they still have a serious impact on the maintenance of safety performance. These organizations often have no, or have very limited, knowledge of the necessity of the safety system and its operating principles,” she points out.

According to Zammit, other barriers that are preventing SMS to establish a solid critical mass in the handling side of the aviation business include the possible lack of educational background that could exist among operative employees finding it very hard to access software or share points to report.

“Another possible barrier is the lack of middle management engagement towards safety standards and framework requirements. This could lead to a communication gap that could raise barriers in facilitating safety reports,” he says.

The aim of regulators is that a consolidated pan-European aviation safety reporting, including the ground handling domain, will produce knowledge that will help to better assess contributory factors. According to Karnite, however, the issue is complex.

“In Europe there are serious differences in opinions and traditions in respect of safety reporting. How realistic is the possibility

that the principles of the European safety management system are applied in one part of Europe the same way as in other parts? We should therefore work towards an EU-wide

equal understanding of the nature of the SMS, its operation and application of the fundamental principles,” she says.

According to Zammit, this consolidation will definitely be beneficial as it may generate a harmonized safety and risk analysis through an improved data capture.

“A consolidated safety database will provide a better understanding of unsafe accident contributory factors and help assess risk and manage hazards,” he concludes. **GSW**



► **ABOUT THE AUTHOR:**

**Mario Pierobon** is a safety management consultant and content producer. He currently is working on a research project investigating aircraft ground handling safety. You may reach him at [marioprbn@gmail.com](mailto:marioprbn@gmail.com).

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Photo courtesy of Aviramp

## Ramp Up the Passenger Boarding Process

Aviramp's International mobile boarding bridge services wide-bodied aircraft and provides a smoother, safer loading process for all passengers.

*By Josh Smith*

Regardless of where an airplane is located or what type of aircraft it is, officials at Aviramp GSE believe they have the solution to get people onboard – even if that passenger has reduced mobility.

The Aviramp International acts like a fixed finger bridge, but for remote stands, explains Terri Smart-Jewkes, global sales and marketing director with the UK-based company, adding the International model is a fully mobile, motorized boarding bridge.

“The International is a world first in terms of being able to service wide-bodied aircraft,” she says, noting the ramp is patented in both Europe and the United States.

The mobile boarding bridge is capable of servicing a range of aircraft from an Airbus A380 lower deck to an A320, as well as Boeing's B787, B777 and B757, according to Aviramp GSE.

The International model incorporates a 360-degree, switch-back design to provide passengers a gradual slope, which makes ascending

and descending the boarding ramp easier for both able-bodied passengers as well as passengers with reduced mobility (PRM).

Smart-Jewkes says in addition to providing a more dignified way for PRM to board the plane, an increased level of safety is afforded because the boarding ramp eliminates the possibility of tripping on stairs.

“It also increases operational efficiency for the airport and handlers, not to mention greater consistency in on-target performance for airlines,” Smart-Jewkes says. “It helps a great deal with airport infrastructure, too, as terminal buildings can be costly, and the International allows an easier, safer and quicker boarding and deplaning experience.”

Part of the Aviramp International’s inspiration came from a ski trip taken by company CEO Graham Corfield. He witnessed people who suffered injuries on the slopes

having difficulty boarding their plane effectively. Spurred by this experience and with other outside interests, Corfield’s multi-sector ramp business turned its attention to the aviation industry.

The International boarding bridge is motorized and can be equipped with solar-power functionality. One person can steer the passenger ramp remotely while positioned on the ground, and a number of safety overrides are in place to provide further assistance.

The flooring is serrated with non-slip qualities to improve safety in wet and icy conditions.

“And we work with our clients to customize our products to suit specific weather conditions and requirements,” explains Smart-Jewkes. “So there are fully enclosed roofing, lighting and extra safety features installed on request.”

The safety measures and all-inclusive boarding opportunities achieved by the ramp allows passenger handlers to be more effective and ensure consistent on-time departures, according to Smart-Jewkes, which provides significant cost savings to airports and airlines.

A part of Aviramp’s suite of products for about two years, Smart-Jewkes says the International can be found at airports around the world, including Europe, Asia, Australia and North America.

She says feedback from airports, airlines and ground handlers has been positive, especially in regards to the speed and safety of the boarding/deplaning process.

“Most of the lift-on passengers have become assist-only passengers,” Smart-Jewkes says. “So again it has enabled a smoother boarding and deplaning experience to ensue.” **GSW**

Photo courtesy of Aviramp





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The Model 15F2820 Towable Passenger Stair has a platform range of 88' by 161'. Upper platform size is a large 76' by 50' to allow the aircraft door to fully open when stair is in position. Other features: LED lighting with timer, onboard battery charger, battery level indicator. Optional solar-charging kit.

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**R.J. Design LLC**

This side shift cab model is mainly used for larger aircrafts like A380 and Aircrafts with L1 and L2 doors. It features a side shift cab that shifts left and right 18 inches and leveling cab floor. This shifting makes it extremely easy to dock to aircraft doors, according to the company.

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Phoenix Metal Products, Inc. has added a passenger stair to complete their full line of stairs. Available now is the model PNX-PAS228 Truck-Mounted Passenger Stair with a door sill height from 96 inches down to 228 inches up. The chassis is a Ford F450 SD with six stabilizers.



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**SPS-7526 PASSENGER STAIRWAY**  
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Aeroservicios USA Inc. manufactures, for sale, rent or lease, brand new 100-percent aluminum passenger stairs for different aircrafts, including Aeros 95 inches-105 feet for B-737; Aeros 135 inches-147 feet for A-320; and Aeros 95 inches-145 feet from B-737 to A-320. Its hydraulic extension is managed through a manual pump, and they offer LED lights.

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# DAVIN Inc.

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CONTACT: David Zschunke - DavinGSE@att.net  
95 Crooked Hill Road, Commack, NY 11725

## This Month's Featured Equipment:

- (1) 2014 JBT, Model B250 pushback tractor, 27,000 lb GVW, 22,000 lb DBP, with cab.
- (1) 1996 NMC-Wollard, Model 140-F-12, Ford 300 gas, Allison trans, 12,000 DBP.
- (1) 2003 Navistar 4300, DT466 diesel, with Smith, 22-ft high-lift cabin service body.
- (1) 2014 TUG, Model GPU400/90/III 90 KVA with 28.5 VDC rectifier, 600 hours.
- (3) 2000 NMC-Wollard, Model TC-888-D, beltloaders, Deutz F4M1011, Ford C-6.
- (2) 2015 NMC-Wollard, Model 60DC baggage/cargo tractors, 3.3 Cummins tier 3, 5K DBP.

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for complete list & pictures of available equipment.

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TLD TMX-150-16 (35,000 lbs GVW)  
JBT B400 (35,000 lbs. GVW)

### BAGGAGE TRACTORS

TLD JST-25, gas  
Harlan HTA50, diesel  
Tiger TC-30, gas

### DEICERS

Premier MT43P21-ABS, closed bucket, forced air

### AIR STARTS

TLD 180 PPM

### PASSENGER STAIRS

Phoenix Metal PAS200 wide body  
Stinar SPS-2513

### LAVATORY TRUCK

Phoenix Metal Products TL600  
Phoenix Metal Products TL175  
Wollard TLS770

### CONVEYORS

Tiger BL2000, gas

### AIR CONDITIONERS

TLD 802 115-ton w/heat  
TLD 804 65-ton w/heat  
TLD 302 24-ton w/heat  
Trilectron DAC200 20-ton

### GPU

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# Competition Drives Improvement

With information gathered from 2016, focus on how your business can operate more efficiently in 2017.

As one year comes to a close and another begins, we're often inundated with year-end countdowns and recaps. While some of these lists may be whimsical and merely for fun, others can provide valuable insight into what took place over the last 12 months.

The latter applies to the OAG's 2016 Punctuality League, which ranks on-time performance (OTP) for airlines and airports throughout the world.

Defining OTP as "a flight that arrives or departs within 14 minutes and 49 seconds of its scheduled arrival/departure time," Hawaiian Airlines ranked No. 1 among all airlines.

Breaking things down further, Monarch Airlines was chief among low cost carriers while Qantas Airways (Asia Pacific), KLM (Europe, Middle East and Africa), Sky Airline (Latin America) and Hawaiian Airlines (North America) claimed the top spots in their respective regions.

Newcastle (NCL), Birmingham (BHX), Surabaya (SUB) and Tokyo Haneda (HND) airports earned top positions in the small, medium, large and major airport categories, respectively.

While highlighting the airports and airlines that had the most successful OTP and attracting well-deserved attention to the top performers, OAG's report also can be used to identify those that need improvement. Those operations can use this opportunity to set a New Year's Resolution, of sorts.

Pinpointing what makes other operations successful, and implementing ways to match that success – or better yet, exceed it – is the logical first step to improve on-time departures for an airline or airport.

Among many other factors, ground support plays a critical role in a quick turn-around.

Take a critical look at your station, the airline you work for or the ground service you provide, and consider how operations can be enhanced.

Can ground service providers streamline their practices in order to make work flow more efficient?

Is the ground support equipment outdated, in need of repair or due for an upgrade?

What individual ground support factors can be addressed to improve on-time departures?

Seek out answers to these questions, find ways to better your operation and drive competition within the industry.

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