

# Ground Support

WORLDWIDE

Supporting Aviation from the Ground Up



## HOLY TOLEDO

**Inside Tronair's acquisition of Eagle Tugs and how the addition is helping complete the portfolio puzzle.**

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**Editor**

**Alex Wendland**  
920.563.1644 ▶ alex.wendland@AviationPros.com

**Associate Publisher/Sales**

**Missy Zingsheim**  
920.563.1665 ▶ missy@AviationPros.com

**Classified Advertising**

**Michelle Scherer**  
920.568.8314 ▶ mscherer@AviationPros.com

**International Sales Manager**

**Stephanie Painter**  
+44 1634 829386 ▶ fax +44 1634 281504  
Stephanie@painter-lowe.com

**List Rental**

**Elizabeth Jackson**  
847.492.1350 ext. 18 ▶ ejackson@meritdirect.com

**PRODUCTION & CIRCULATION**

**Art Director**  
Rhonda Cousin

**Production Manager**

**Carmen Seeber**  
920.568.8373 ▶ carmen.seeber@AviationPros.com

**Audience Development Manager**

**Debbie Dumke**  
920.568.1763 ▶ ddumke@southcomm.com

**Production Director**

Steve Swick

**INTERNATIONAL AIRPORT GSE EXPO**

**Trade Show Director**  
**Sue Ralston**  
920.563.1655 ▶ sue@AviationPros.com

**AVIATIONPROS GROUP**

**Gloria Cosby** ▶ Executive Vice President  
**Gerry Whitty** ▶ VP, Marketing  
**Brett Ryden** ▶ Publisher, Aviation Group  
**Lester Craft** ▶ Director of Digital  
Business Development

**SOUTHCOMM BUSINESS MEDIA**

**Chris Ferrell** ▶ CEO  
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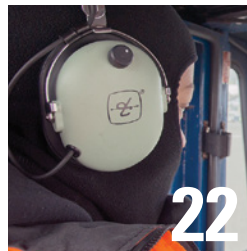
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Circ.groundsupportww@omeda.com  
PO Box 3257 Northbrook, IL 60065-3257

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## ► Upcoming Events

**April 5-7**

**MRO Americas**

Dallas, TX

**April 20-22**

**GSE Buyers & Ramp Ops Conference**

Istanbul, Turkey

**April 23-27**

**NEC/AAAE International Aviation Snow Symposium**

Buffalo, NY

**May 3-5**

**NBAA Maintenance Managers Conference**

Kansas City, MO

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## BUSINESS BUZZ

### ► TOP NEWS

#### Sea-Tac Recognized by ASHRAE for PCA System

The Seattle-Tacoma Airport is one of five buildings to be awarded the for innovative building design. ASHRAE recognized Sea-Tac's pre-conditioned air plant (PCAP). The PCAP delivers sub-cooled glycol/water through 15 miles of piping to each of the 73 airplane gates in the existing facility, to serve the complete airplane HVAC&R needs. The system allows airplanes to shut off their jet-fueled on-board auxiliary power units (APUs), resulting in jet fuel savings and reductions in carbon dioxide and other gas emissions. The reductions realized through the project include annual savings of: An estimated five million gallons in fuel (a \$15 million savings in airline fuel costs), 40,000 metric tons of greenhouse gases (the equivalent of removing 8,000 cars from the road), 73 tons of nitrogen oxides and noise pollution from aircraft parked at the gates operating their APUs.

#### Lion Air Baggage Handlers Busted for Luggage Theft at Indonesian Airport

Indonesian police arrested four Lion Air employees after they allegedly stole items from checked bags at the Soekarno-Hatta International Airport in Jakarta, Indonesia. One of the suspects, identified only by the initial S, claimed that the airline's security guards were also in on the theft ring. The suspect stated that the security guards would alert them when they could start going through the bags and had also demanded a cut of whatever items were stolen.

#### Safety Lapses Sited After Air India Technician is Sucked into Engine, Dies

Air India senior officials admitted that "serious safety lapses" occurred before the technician was sucked into the engine. A maintenance manager of Air India competitor IndiGo claimed several lapses as well as instances of non-adherence to

the standard operating procedure. "After pushback, the technician instructed the helper to remove the tow bar," he wrote in an email obtained by Hindustan Times. "The helper removed the tow bar and, in all this time, the technician was facing the tow truck with his back to the engine. In the meantime, captain got taxi clearance from ATC and he was informed by co-pilot that aircraft was clear. The technician still on headset and with his back still facing the engines, aircraft started to move with both engines on (sic). With no chocks placed, the aircraft started moving and sucked the technician. The helper... immediately sat down and got saved."

#### Two Injured When Fuel Truck Collides With Aircraft at O'Hare

A fuel truck clipped a wing on a stationary GoJet Airlines plane on January 3. The driver of the fuel truck was taken to a nearby hospital, according to police. A flight attendant also received minor injuries and was taken to a hospital as a precautionary measure, according to the airline. The GoJet flight, No. 3693, was headed to Omaha, Nebraska, and had 65 passengers and four crew members on board.

#### ExecuJet Achieves First IS-BAH Certification in Germany

ExecuJet Aviation Group has received accreditation by the International Standard for Business Aircraft Handling (IS-BAH) for its fixed-based operation (FBO) in Berlin. The certification makes ExecuJet the first FBO in Germany, and one of the first across Europe, to hold the IS-BAH certificate.

#### ContiTech Announces \$7.2 Million Expansion of Iowa Plant

ContiTech has announced a \$7.2 million expansion of its industrial hose plant in Mount Pleasant, Iowa. The hose plant, purchased in 1977, currently employs more than 200 workers. Work on the expansion is expected to begin in Q1 2016 and to be completed by the end of the year.

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## John Menzies Issues Profit Warning

John Menzies PLC has issued a profit warning and alerted investors that the company had to revise their profit outlook for 2015 due to issues surrounding contracts with London Gatwick Airport. A John Menzies spokesperson claimed that rectifying “operational issues” at Gatwick was going to cost an extra £6 million in the second half of 2015, and said that year-end profits could be £2m lower than previously forecasted.

## Lufthansa Cargo Achieves Worldwide ISO14001 Certification

Lufthansa started the certification process in 2008 and has been ISO certified throughout Germany since 2010. The company has now achieved worldwide certification. “As an airline, we have a special responsibility to our environment,” Dr. Karl-Rudolf Rupprecht, Board Member Operations, says. “We live up to this responsibility through our ambitious environmental targets. For example, we want to reduce our specific CO2 emissions by 25 percent by 2020. Global certification of our environmental management system is another milestone in this.”

## Sharjah Aviation Services to Automate Bag Management

Sharjah Aviation Services will introduce automated baggage management and communication systems at Sharjah International Airport, the United Arab Emirates’ third-largest airport. The new systems, provided by Sita, are aimed at further improving the reliability, security and speed of baggage delivery at the airport. More than 4.5 million departing bags are handled at the Sharjah every year and the new system will provide the airport’s ground handler with state-of-the-art baggage reconciliation services and

full visibility and tracking capabilities within the airport as well as simplifying the exchange of baggage information between the airport and airlines.

## Vanderlande Reports Record 2015 Order Intake

The Dutch firm confirms it has secured a record order intake of €1.4 billion in 2015 for its integrated solutions in the baggage handling, warehouse automation, and parcel and postal markets. This represents an increase of €400 million compared to the previous year’s order intake of €1 billion.

## IntelliNet Sensors Announces Detector to Find Individuals Hiding Inside Cargo Containers

IntelliNet Sensors, a developer of multi-sensor breathing and heartbeat detectors, launched the Lynx3-A™ Mountable Breathing Detector System for the detection of live persons inside cargo containers. The ultra-wideband radio frequency system searches for changes in the electromagnetic signature of a confined volume and registers its minuscule perturbations. The rapid deployment of the system across borders, loading docks of airplanes, and vessels allows authorities to expeditiously detect and prevent human trafficking and illegal entry.

## NASA: Green Aviation Tech Could Save \$225 Billion

If U.S. airlines embrace certain technologies to reduce fuel burn, noise and air pollution, they could save \$255 billion over 25 years, according to a six-year NASA study. Over the course of the study, researchers examined technologies to refine or revamp aircraft design from top to bottom from the materials they are made of and what fuels aircraft, to tail, wings and engines.

## Emirates’ Open New SkyCargo Terminal

Emirates SkyCargo’s state-of-the-art terminal at the Logistics District in Dubai South was officially inaugurated as part of the Dubai Air Show. Named Emirates SkyCentral, the cargo facility is the home of Emirates SkyCargo’s fleet of 15 freighter aircraft.

## Airport Workers Brave Chicago Cold to Call for Higher Wages

Despite a minus-24 degree windchill, three dozen members of the Service Employees International Union Local 1 marched outside United Airlines’ Chicago headquarters on January 18. The protest was one of nine organized actions of civil disobedience across the United States in observation of Martin Luther King Jr. Day.

## Could Math be the Answer to Cutting Airport Congestion?

Engineers at MIT have created a model to prevent costly delays and airport congestion. Using the MIT model, air traffic controllers could direct departures to minimize runway congestion by keeping aircraft at the gate instead of waiting in a runway queue. In the case of a 30-to-40 minute delay, this would save 20 gallons of fuel. The model has been tested at airports in Newark, NJ; Boston; New York City; and Charlotte, NC. Preliminary results suggest that the MIT model can be implemented with relative ease.

## ► PEOPLE

### Michael Fitch Joins Legacy Aviation Services

Michael Fitch has joined Legacy Aviation Services as Sales & Marketing Director.





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With more than 23 years of sales and customer service experience in the aviation industry, Fitch will oversee the sales and customer relationship efforts of Legacy's FBO/MRO operation specifically in maintenance and repair, parts, and component overhaul as well as fuel sales.

**Kwang-Soo Lee Added to TIACA Board of Directors**

Kwang-Soo Lee, VP Marketing and member of the board of directors at Seoul-Incheon



International Airport, South Korea's largest airport and the fourth busiest in Asia in terms of cargo traffic, has joined The International Air Cargo

Association (TIACA) as part of their board of directors. Lee brings 25 years of experience in aviation to the TIACA board and looks to expand association membership in North East Asia.

**Chris Davies in as Technical Manager at Cargo 2000**

Chris Davies has been appointed Technical Manager at IATA cargo standards interest group, Cargo 2000. Davies previously worked with Cargo 2000 partner Descartes Systems Group in London. Davies has previously served on the C2K Technical Working Group and will be responsible for delivering the core technical C2K product.



**▶ NEW DEALS**

**Tronair Acquires Eagle Tug, Signs Distribution Deal with Carolina GSE**

Tronair has acquired longtime GSE manufacturer Eagle Tug for an undisclosed sum. You can read more about the acquisition, including what it means for the future of both companies, in the cover story of this issue. In addition to the acquisition of Eagle, Tronair and Carolina GSE entered a distribution agreement in which Carolina GSE will sell Tronair's complete product line, including JetPorter towbarless electric tugs and Eagle's full product line, worldwide.

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## Dnata Singapore Wins Eight Airline Customers

Dnata Singapore has signed eight new airline customers at the Singapore Changi Airport: Myanmar Airways International, Myanmar National Airlines and Bhutan Airlines have appointed dnata as their ground handler while Air New Zealand, Turkish Airlines and China Southern Airlines are using the company as their in-flight caterer. In 2016, dnata will provide technical ramp services to Japan Airlines, and will provide passenger and ramp services for Etihad Airways in Singapore.

## EPIC adds Konect Aviation to Their FBO Network

Konect Aviation Oregon, of McMinnville, OR, was recently named the newest member of the EPIC FBO Network. Konect focuses on scenic tours, private charters and flight training for both rotary and fixed wing aircraft.

## GB Manufacturing Company Completes Par-Kan Purchase

GB Manufacturing Company acquired all assets of Par-Kan Company. GB plans to provide additional support to Par-Kan's management team as they work to expand their product offerings. The acquisition also positions both companies to continue diversifying their customer and market bases in addition to developing their manufacturing and product capabilities.

## Liquid Controls acquires Avery-Hardoll product line

Liquid Controls LLC (LC) closed the deal for the Avery-Hardoll metering product line in December. Avery-Hardoll is best known for bulk fluid metering and fluid measurement accuracy. LC plans to use the Avery-Hardoll line to expand their current offerings and has begun coordinating with customers to re-launch the Avery-Hardoll product line globally.

## SITA Purchases Type-22

SITA announced the acquisition of Type-22, a self-service bag drop development firm headquartered in Delft, The Netherlands. The Type-22 properties, including Scan&Fly and

Drop&Fly, are planned to serve as complements of SITA's existing airport IT services. Type-22 will continue operating in The Netherlands and SITA will continue development of and support existing Type-22 products.



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**TRONAIR**

# HOLY TOLEDO

*By Alex Wendland*

Just one hour on I-75 separates Holland, OH from Taylor, MI – and Tronair from Eagle Tugs. The relative neighbors have now moved under the same umbrella, but not roof, following the December announcement that the Ohio-based Tronair had purchased the renowned Eagle Tugs name and product line.



## TRONAIR'S PRODUCT SERVICE GROWTH

Tronair currently supports their products through 13 product service centers, including the Tronair headquarters, in 11 countries and on four continents. In 2016, there are plans to add as many as 25 new service centers through a new training and certification program. Additionally, service technicians will spend time in both Toledo at Tronair and take the hour long trip to Taylor, MI to become certified on Eagle products as well.

### CURRENT SERVICE CENTERS:

- ▶ Holland, OH
- ▶ Pennsylvania
- ▶ Quebec
- ▶ Brazil
- ▶ Thailand
- ▶ France
- ▶ Germany
- ▶ Italy
- ▶ Lithuania
- ▶ Turkey
- ▶ United Arab Emirates
- ▶ United Kingdom

### POTENTIAL 2016 SERVICE CENTERS:

#### NORTH AMERICA:

- ▶ Cleveland
- ▶ Bethany, OK
- ▶ East Granby, CT
- ▶ New Bern, NC
- ▶ Wichita, KS
- ▶ Teterboro, NY
- ▶ Tampa
- ▶ Dallas
- ▶ Redding, CA
- ▶ Los Angeles
- ▶ Houston
- ▶ Las Vegas
- ▶ Sherwood, OR

#### INTERNATIONAL:

- ▶ China
- ▶ Singapore
- ▶ Australia
- ▶ Philippines
- ▶ Indonesia
- ▶ Switzerland
- ▶ The Netherlands
- ▶ Saudi Arabia
- ▶ Nigeria

The deal, three years in the making, started at NBAA 2013, just two weeks after CEO and President Harley Kaplan and Mark Iddon, executive vice president of sales and marketing, started at Tronair.

“We met John and Jace Morgan, the former owners of Eagle, and the idea kind of floated between us all,” Kaplan said in a December phone interview just after the announcement of the acquisition. “But at the time, our platter was more than full, just trying to understand Tronair.”

But the four, as well as Josh Green, vice president of strategic planning and Tronair’s CFO, stayed in touch. The Tronair trio found their footing in Ohio and called their counterparts to the north again in May of last year.

“They were kind of coy sellers, but it was pretty obvious to us that they were interested in furthering the conversation,” Kaplan says.

“It just made a ton of sense, and so we were fortunate to be able to strike a deal with John and Jace, and the rest is history.”

Former Eagle owner Jace Morgan has stayed on in a consultation capacity and will remain in that role at least through the bulk of 2016.

Immediately, the question was what would happen to the Eagle product line, the Eagle name and, most importantly, the 30-plus people who design, create, make, sell and support decades of Eagle products?

“I really believe that only a conceited CEO would ever get rid of the Eagle brand name, and I try not to be that guy,” Kaplan said

in December. “So Eagles will be Eagles, and Tronairs will be Tronairs. It’s possible that the JetPorter, which is a Tronair product, will get branded under the Eagle brand soon, and create vehicle division.”

In addition, there have been no redundancy layoffs at Eagle and the Tronair employee base has grown approximately 30 percent with the addition of the Eagle brand and team.

“The sales side, though, is a full court press,” Kaplan says of their integration process.

Two months later, *Ground Support Worldwide* went to Michigan and to Ohio to check in on one of the most impactful acquisitions in recent industry memory.

## The Power of Positivity

The plan in December was to utilize the sales infrastructure from Tronair, which Iddon has built over the past two years, to include the existing Eagle product line and integrate the two GSE portfolios.

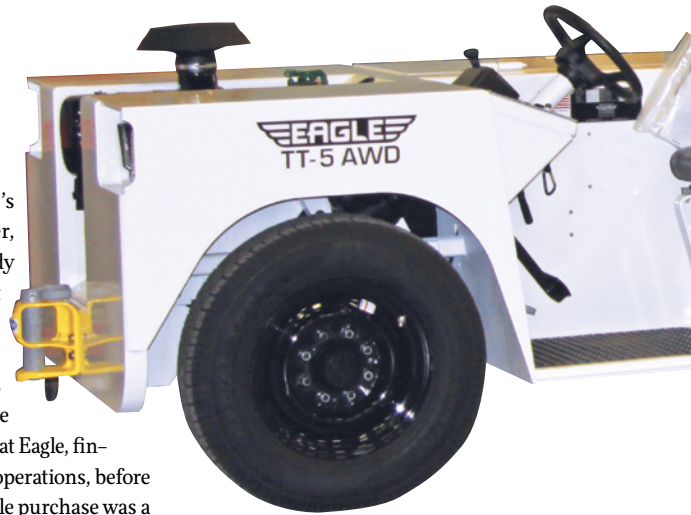
Just a week before our visit, and just over a month since the ink dried on the sale, the Eagle crew saw firsthand the sales support upgrade they were being accepted into. The conference room at Eagle’s headquarters was filled with 18 Tronair salespeople champing at the bit to get Eagles into hangars and onto ramps worldwide.

Additionally, Tronair’s JetPorter product manager, Justin Akinleye, has already been promoted to product manager for both the JetPorter and Eagle product lines. The move comes as little surprise since Akinleye spent more than seven years at Eagle, finishing as director of global operations, before arriving at Tronair. The Eagle purchase was a homecoming of sorts for the former Marine.

“We have ISO and obviously we’re CE approved, and those are consistent quality programs,” Akinleye says of the advancement during his time at Eagle. “But now the Morgans having sold it to Tronair, we can now go to another level. That’s with all that other support.”

Part of the sales meeting, according to Kaplan, was to bring home the fact that Eagle was truly being accepted into the Tronair team. This wasn’t going to be an assimilation, it was truly an integration.

“They were walking in this room and their mouths were dropping because they’re used to having two, maybe three people selling the product,” Kaplan says. “They walk into a room of 18 people.”



The existing Eagle team is excited about the additional sales support.

“The sales force alone on Friday was amazing,” Adam Dudek, production manager at Eagle, says. “I met so many people, I couldn’t remember all their names, but they were from everywhere. That just, right there, says what’s going to happen.”

Dudek, who has been with Eagle for more than 25 years, had the same reservations any employee has when the company they work for is sold.

“I’ve been through it a couple of times,” Dudek says. “I was okay with it. It’s always a little nerve-wracking because you don’t know exactly what’s happening, but after meeting with the guys and stuff like that, I couldn’t be more excited.”





For Eagle, a company that has relied so much on the quality of the shop, the Tronair management's interest in manufacturing puts to rest many of the concerns of those making the tractors.

"We're going to keep running it and keep growing it," Dudek says. "And that's what I want to be a part of."

## Lessons Learned

This is not the Tronair's first time around an acquisition. Nearly a decade ago, in the spring of 2006, Tronair purchased the JetPorter product line. JetPorter's electric, towbarless tugs were the basis for a whole new division at Tronair at the time and have driven much of the company's growth to the point that they've nearly reached the maximum possible capacity they're going to be able to reach at their current facility - another reason for Eagle and crew to stay put in Taylor for the time being.

The JetPorter integration came with headaches, however.

Part of the problem, according to Kaplan, was that JetPorters were never really made a part of Tronair prior to the addition of Akinleye.

"When you decide that you're going to acquire a business or a product line, you need to be totally committed to that integration of the product," Kaplan says. "Everywhere from the sales line all the way through to the bottom line. That also includes developing the product and making sure the product is what it should be."

According to Kaplan, when he and Iddon got to Tronair two years ago, their aforementioned trip to NBAA 2013 included certain revelations regarding their largest pieces of equipment.

"The first that struck us was we had this gigantic blue thing taking up all the space in our booth," Kaplan says. "But it was amazing how many people came to the booth who didn't know that we sold them and it was shocking

how few we sold.

"So as we started to kind of peel the onion back, as you do when you're new to a business, we realized there was no dedicated sales force to this product. I think the belief had been that it would just sort of melt in to the jacks, and

the tow bars, and the hydraulic power units and everything else. But it won't, because it's a whole different sale."

Tronair brass decided that they need a product manager specifically for JetPorter. A conduit for the company to invest time,

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*Eagle Tugs will continue to operate and manufacture in Taylor, MI for the foreseeable future.*



*JetPorters will retain their "Tronair blue" color scheme under the Eagle banner.*

resources and manpower to. That person was Akinleye.

But the investment and attention has helped. The process of educating the user base and supporting customers through proper maintenance and service availability has gone a long way in rehabbing the brand. And the manpower has helped new and old customers understand what JetPorter does.

"This Softcapture mechanism that we have is a patented product," Iddon says. "It's completely unique in the marketplace, but if

you had talked to most people about it, about JetPorter, they may or may not have known about the Softcapture. They certainly didn't realize how unique it was."

The JetPorter Softcapture technology is certainly clever. So clever, in fact, that *Ground Support Worldwide* awarded Tronair the 2013 Ground Support Product Leader award for it.

"It's much better on the landing gear, which is the last thing you want to damage on a regional carriers schedule is to mess up your landing gear," Iddon says. "We had

that, but nobody knew."

The challenge now, with a full portfolio of GSE, is to make sure the troubles of the past don't return to haunt the future.

"The integration is happening truly at that top-line level and we'll see how it plays out," Kaplan says. "I mean, quite frankly, I've made no bones about it: There's not enough space here. Tronair doesn't have enough space. We're only an hour apart. So halfway is a nice place. We might just set up a friendly competition between Ohio and Michigan and see who wins."



## SUPPORT FROM THE GROUND UP

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## It's a New Day

For people at Eagle, a new, corporatized environment will include institutionalized benefits they previously had to personally navigate.

"You know an example, having been here and left and experienced both sides, is continued education and training," Akinleye says "For example, if you were working here prior to Tronair, you would have to have a pretty chummy relationship chat with your boss about doing things. Whereas at Tronair we have institutionalized support to help you fill the gap in your career to a stronger, better person."

Those types of fringe benefits, Akinleye says, are something you have to sell to management when working for a family business. Those kinds of programs are the norm in a more institutionalized environment, and that investment comes from the multitude of shareholders that come with being a private equity company.

"Just the sense of responsibility is different," Iddon says. "Whereas with the family business the responsibility is to the family and the employees, but also the sense of responsibility when you have shareholders and we have a responsibility to them. So it's just a different perspective."

In the immediate future, existing development plans for Eagle, Tronair and JetPorter will all continue. New products for all three Tronair brands will be released as planned. Additionally, the JetPorter line has already been rebranded as an Eagle product to develop the vehicle line to be managed as part of Akinleye's new role.


In addition to the rebranding, Kaplan says he hopes that the overall portfolio - electric engines, internal combustion engines, towbars, towbarless and the thousands of other Tronair manufactured GSE - and support infrastructure being developed over the next year will bring more Tronair products onto the commercial ramp as well as the hangar. Traditionally, 60 percent of Tronair's business has come from business and jet aviation.

"As historically we've been hangar guys and OEM guys," Kaplan says. "We now have a really good transition tool along with another acquisition that we did early last year, which was the Wasp towbar line, to really get us on to the flight line. So I think we're really well positioned for some very good organic growth over the next couple of years."

You might think following a major acqui-

sition like the one Tronair just completed that it might be time to let the dust settle. That it might be a time to slow down, let it breathe. That this portfolio might signal the end of acquisitions for Tronair.

"I wouldn't say that," Kaplan says. "We're going to a lot of dances with a lot of people, but we haven't put any rings on fingers outside of what you see." **GSW**



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## Four Tips for Keeping Your Cool on the Winter Ramp

The Northern hemisphere, specifically the further reaches of North America, are still in the process of digging themselves out of another winter full of snow and ice; oftentimes large chunks of the whole air transport system is paralyzed with thousands flight cancellations throughout winter. Over the years, GSE experts have learned countless lessons and formed a good working knowledge on rough weather conditions in support of the safety of operations both on the ground and in the air.

*By Mario Pierobon*

**W**hen the first European settlers came to North America one of the main, if not the most, significant challenges they encountered was the adaptation to a very demanding environment which in the winter season was even more challenging than what they were used to. This held true in particular for the northernmost part of the New World. That burden extended during the advent of aviation and

continues today, but just about everything else in regards to how we deal with winter operations has changed.

### 1. Personal protective equipment

One of the safety devices that have improved the resilience of winter operations on the ramp over the years has been personal protective equipment



(PPE). According to Steve Polak, manager of aircraft services standards and training at Jazz Aviation of Canada, good protective equipment is very important to ensure safety on the ramp during winter operations. “PPE is mandatory in our operation, quality proper fitting clothing allows our employees to remain in sub-zero temperatures for extended periods of time. Clothing must be water resistant, wind proof and able to wick moisture away from the body. A warm comfortable employee is able to focus on the task at hand” he says.

With regard to recent developments in personal protective equipment that can provide for better performance Polak says that work wear that has fully reflective surfaces replacing the need to wear a safety vest is a marked improvement. This kind of work wear provides for less bulk and a reduced chance of forgetting to don safety

vests, he says.

According to Paul Schenk, manager of terminal development and activation at Greater Toronto Airports Authority, personal protective equipment, such as anti-slip boots and various types of slip on traction covers for boots, have been tested at Toronto Pearson. However, he notes, PPE should be one of the last resorts. “The first methods should be to engineer out safety concerns or put processes in place to avoid safety conflicts or possibility of injury,” he says.

## 2. Advanced de-icing and anti-icing equipment

When it comes to putting processes in place for performing safe winter operations, one of the things that should be noted is that de-icing and anti-icing operations can be particularly prone to cause aircraft damage because equipment operating close to air-



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craft always carries a risk of collision. “Our service providers have damaged aircraft while de-icing. Running prop strikes with beta truck tusks, usually the operator has deviated from SOP. With open bucket trucks we have had wing and tail strikes with the truck bucket,” says Polak.

Schenk notes that the use of sand without a proper process to ensure that it is removed in a timely fashion can lead to aircraft engine damage. “There is a lot of discussion now about the impacts to carbon fibre brake components and electrical components due to use of formiates and acetates,” he adds.

It is also out of the operational experience learnt in North America (as well as other parts of the world where winter is normally very tough, like for example the Scandinavian countries in Europe) that ground support equipment (GSE) manufacturers have been increasingly developing equipment in accordance with the principle of inherent operational risk reduction, whereby the machines are less prone to cause aircraft damage.

The principle of inherent operational risk reduction is achieving some critical mass in the manufacturing of equipment in support of winter operations with newer de-icing and anti-icing equipment being developed to reduce the likelihood of damage. Jazz Aviation’s experience has benefited from the safety features built into ground support equipment and namely the case has been that proximity sensors have helped, says Polak; he stresses, however, the tusk sensors have

still struck running propellers.

Vestergaard Company, of Denmark, has also embraced risk reduction on the manufacturing side of their de-icing equipment. “Our de-icers are developed to minimize – or nearly eliminate – the risk of damage to the aircraft during operation as well as ensuring safety for both de-icing operators and other ground personnel around the aircraft,” Karina Læssøe, marketing manager at Vestergaard, says. “With the long telescopic boom, the nozzle can be kept within one meter of the aircraft surface throughout de-icing operations for virtually any aircraft while still remaining at a safe distance. The length of the boom and telescope means less maneuvering around aircraft, thereby minimizing the risks of accidents.”

Læssøe highlights that a number of safety features that are engineered into Vestergaard’s de-icers, with the most prominent one being the Precision Positioning System (PPS) that helps keep the nozzle within exactly one meter from the aircraft surface, the most optimal distance in de-icing. “With the PPS, distance to the aircraft surface is maintained stable automatically thereby improving safety during operations and reducing the risk of aircraft damage,” she says.

Schenk also highlights that there have been significant improvements over the past decade in being able to specifically meter the use of anti-icing and de-icing products. “A number of companies are now providing the ability to integrate friction measuring devices

and chemical application units. Using this methodology the friction measuring vehicle sends data to the chemical application trucks and tasks them where to apply material based on friction values in that area. This is of most use on runways. Essentially the truck runs the route and the chemical is automatically tasked to apply based on values sent by the friction measuring device,” he says.

### 3. Auditing

Winter operations have also become more resilient due to an improved oversight over the years on the suppliers of aircraft de-icing and anti-icing services, part of an industry that is rather fragmented. Regulations on air operations state that the ultimate responsibility of de-icing and anti-icing of aircraft resides with the airline operators themselves; as a consequence, the actual suppliers of these services are subject to multiple audits which can compound complexity and bureaucracy. Multiple industry initiatives are, however, aiming towards audit data sharing in order to avoid having to subject the same suppliers to multiple redundant audits.

Several international airlines establishing the IATA de-icing/anti-icing quality control pool (DAQCP) under the leadership of the International Air Transport Association (IATA) to share audit results. The program has been oriented at avoiding multiple audits of the same provider at the same location and improving the quality of inspections with fewer and more effective audits carried out by accredited DAQCP inspectors in accordance with evaluation criteria established by the pool itself. The stations are assigned each year by the pool and are based on the airports served by airline DAQCP members. The DAQCP currently consists of about 100 member airlines and through its active members, performs inspections on approximately 600 companies that provide de-icing/anti-icing services and post de-icing/anti-icing checks at more than 300 airports worldwide. The DAQCP also offers a passive membership to operators that do not have an audit organization or the experience in winter operations, according to information posted on IATA’s website.

The DAQCP audits comprise multiple areas including the compliance of proce-

dures and documentation with acceptable standards, the training and qualification of personnel, de-icing/anti-icing facilities and equipment and the integrity of sprayed de-icing/anti-icing fluids, according to information on IATA.org.

#### 4. Real time data tracking

The winter season carries the potential of paralyzing large batches of the air transport system as the media report almost invariably every year; yet the improvements in safety and effectiveness that winter operations on the ramp have witnessed over the years have historically contributed to operational discontinuities in winter. Without these improvements the air transport system would be more heavily paralyzed in winter.

The search for continuous improvement is never ending. Future incremental improvements of winter operations may be obtained

by placing a stronger focus on the oversight of the actual operations concerned with the application anti-icing/de-icing chemicals on aircraft; and this result can be achieved by using systems that provide for real time data reports, thereby simplifying the operations and reducing traffic and congestion on the apron/taxiway system.

“What we have found is that by using systems that provide us real time information on where assets are, what they are doing, what chemical at what rate at what speed, etc., we are able to reduce the number

of people we have trying to follow vehicles around and report on what they see rather than on real data that we are getting from the real time data tracking systems. We have put chemical tracking systems in all of our chemical application vehicles both on airside and landside. Our inspectors, especially landside, now report more on surface conditions that they see. We use the chemical tracking systems to see what is being applied and at what rates and we are able to tweak those in real time based on the results that we are seeing,” says Schenk. **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 [marioprnb@gmail.com](mailto:marioprnb@gmail.com).

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# Can You Hear Me, Major Tom?

Communications technology is some of the fastest moving tech on the plant. At home, it starts with a new iPhone every six months, continues with a new dongle or software that allows you to use that iPhone in the car without impugn from law enforcement and ends with a home-wide intercom system...that you can use with your iPhone. But what about on the ramp?

By Alex Wendland

**R**eliable communication on the ramp is a safety imperative, not a convenience. Wireless, noise-cancelling headsets allow ramp crews to maintain clear, constant communication with each other and those in aircraft while minimizing the noise of the ramp itself.

Wired headsets have been the norm on the ramp for decades, but in 2011, David Clark Company introduced their line of wireless headsets after decades of experience with in developing wired communications for a number of industries. For ground support, however, the going began slowly.

“Manufacturers have been trying to introduce wireless intercom headset systems to the ground

support market for the better part of two decades,” Bob Daigle, product manager at David Clark Company, says. “And these earlier attempts have had little if any success in regards to reliability.”

## You’ve Really Made the Grade

Early adoption bit back hard in the ground support industry. Early attempts at wireless headsets had poor reliability and, when they did work, didn’t have the ability to block environmental noise on the ramp. Eventually, ramp operations managers resorted back to wired communications.

David Clark had to cash in some reputation credibility to get system trials and, in a positive for the



entire industry, the response was positive. In fact, across the industry, the move to wireless communication technology is improving and becoming standard operating procedure.

Today, David Clark's 9900 headset series uses Digital Enhanced Cordless Telecommunications (DECT) radio technology to provide communication for up to four users per gateway and a 300 foot range.

DECT, as opposed to more popular commercial wireless technologies like Bluetooth, has a much stronger range and is preferable for networks with multiple users – not just one-to-one communication. In addition, DECT has been designed to work with a

Just as **important** as being heard is that his **headsets are reliable** at normal speech levels. Speech is undeniably **faster** than using hand signals, but when **ramp crews need to shout**, they might as well **not even try speaking**.



number of international telecommunications formats including ISDN, GSM and PSTN.

Outside of the radio technology, today's wireless headsets include noise-cancelling features for both speaker, through noise-cancelling microphones and microphone guards,

and listener, through well-insulated ear covers and in-ear noise cancellation via a microphone in the earpiece that picks up ambient noise and cancels it out to the listener with a soundwave of its own. It's an obvious necessity, but a necessity nonetheless, that any

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headset on the ramp ensure clear communication for ground crews in an environment as loud and volatile as the ramp.

“We also offer various other headset communication options, such as Bluetooth headsets for smartphone communications and a wide selection of options for mobile and portable

radio interface,” Daigle says of David Clark’s own offerings. “We innovated noise-attenuating headset communication back in the late 60’s/early 70’s, and have always had a strong focus on our headsets’ performance in high-noise environments.”

What’s a headset with sub-par ear protec-

tion? Nothing. Without insulation from the surrounding noise and, the added benefit of protection from the cold in the winter, the best microphone won’t help.

“It starts with effective hearing protection, as this not only affects the ability to hear what is being said through the headset without employing excessive earphone volume,” Daigle says. “But, for applications where the headset is worn for long periods, effective hearing protection reduces the level of noise fatigue, keeping the user more alert on the job.”

Daigle says headsets need the most effective noise-cancelling microphones, specifically tuned to human speech, to cancel background noise, including wind, so that critical information doesn’t need to be relayed twice. Daigle also says that David Clark Company’s dedication to product development is what has allowed them to push the boundaries on headset tech.

“We’ve also recently engineered several new lines of microphones that improve even further on these noise-cancelling properties, and have integrated these on all wireless headsets and will soon be offering these on all ground support headsets across the board,” Daigle says.

“Manufacturers have been trying to introduce **wireless intercom headset systems** to the ground support market for the better part of **two decades**,”

Bob Daigle, product manager at David Clark Company, says. “And these earlier attempts have had **little if any success** in regards to reliability.”

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▲ *The wireless system is designed to permit communication between the tug operator (or lead crew member) and the pilot. The tug operator also has the ability to communicate with wingwalkers. Use of the system eliminates "line-of-sight" issues with wingwalkers who often times cannot see the tug operator, or even one another during pushback.*

### Sitting in a Tin Can

For tug drivers, the clarity and speed of communication is essential for safe, reliable handling and pushback.

"For example, take a tug operator working with a pair of wing-walkers at a gate for push-back," Daigle says. "The way our wireless system works, all ground crew have hands free voice communication at normal speech volume, and the crew lead talks to the pilot when pressing a push-to-talk switch through a gateway plugged into the aircraft."

Suddenly, with everyone on the same communications systems, the tug driver has three lookouts from three different perspectives – off of whom are communicating verbally, without the need for hand signals.

"So, if either of the wing-walkers sees an obstacle in danger of making contact with the aircraft during a push, they simply speak up as they see it," Daigle says. "This way, the tug operator can avoid the hazard without having to see it themselves. This saves the crew and others from potential harm, while saving the airline money in terms of avoiding costly aircraft damage."

Just as important as being heard, according to Daigle, is that his headsets are reliable at normal speech levels. Speech is undeniably

faster than using hand signals, but when ramp crews need to shout, they might as well not even try speaking. What will they do the next day? Voices give out. Scheduling tests with any number of manufacturers will help find the best fit for your crew on your ramp.

### Commencing Countdown, Engines On

The ultimate goal of ground support is obviously getting aircraft in the air as quickly and safely as possible. That goal is second only to the safety and wellbeing of the ground support team and passengers on the ramp. Not only does headset tech improve communication on the ramp, it improves ramp efficiency, safety and turnaround time at the gate and, as a result, saves airlines and airports hundreds of thousands of dollars in lost time and damages.

Open lines of communication, including

Not only does headset tech **improve communication** on the ramp, it **improves** ramp efficiency, safety **and** turnaround time at the gate.

allowing tug operators to verbally communicate with both pilots and wing watchers as opposed to relying on hand signals, contributes to improved on-time performance, avoidance of delays and cancellations based on damaging incidents and can even improve efficiency for aircraft maintenance and deicing. **GSW**

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# Putting the Aesthetics into Ground Power Solutions

The Hobart 2400 Power Coil offers unique voltage levels and is housed in a space saving enclosure.

By Maile Bucher

TW GSE Americas Hobart knows power solutions. With their 2400 Power Coil, Hobart addressed and improved a number of key issues for GSE users.

First off, the 2400 Power Coil was designed as a 2-in-1 solution featuring a 400 Hz 90 kVA solid state frequency ground power unit and a cable reel in one housing—this solution represents a radical improvement in the ground support industry.

The Hobart 2400 Power Coil is designed to operate well with all sizes of bridges and aircraft models. When compared with Hobart's previous power solutions, as well as other solutions available on the market, the 2400 Power Coil takes up less space and is 40% lighter. ITW GSE spent

extensive time working within its global research and development effort to incorporate features that would make it easier on the customer. The company combined the information developed in its own research development along with looking at the challenges that their customers were facing—in result the 2400 Power Coil was engineered to meet customer's needs and provide solutions to those challenges.

## Ease Of Use For Operators

The single enclosure design on the coil, one of Hobart's highlights on the 2400, is that it comes factory tested and ready to be mounted underneath the Passenger Boarding Bridge (PBB). With a traditional 400 Hz Power Solution there are several different components; the converter and the cable handling system attached beneath the bridge are two separate installations. Traditional 400 Hz Power Solutions also require several interconnections through cables and control boxes (*refer to drawing*). Simply mounting the unit under the PBB and connecting the input cable saves a great deal of time and money.

As a standard, the 2400 Power Coil comes with 72 ft (24 m) useable length of cable. The cable is rolled completely into the housing after use.

The 2400 Power Coil unit was also engineered with ITW GSE's common design platform, which means that it includes the ITW GSE icon based user interface. The user interface adds to operator productivity, for departure the operator needs only to press the start/stop button. The display screen allows for operators to monitor stats such as voltage and current. There is even a level of the user interface that is solely aimed at operations completed by technicians. Since the program is software based, the 2400 Power Coil can be updated and given additional features as they are released, through a USB. The user interface is common to all of the "400" product lines to ensure that ground support



► **Illustration of the difference between traditional 400 Hz power solutions and the Power Coil.**

crews who are already using the system for another piece of equipment will be presented with the same display and icons—this was put into place to limit human error when operating equipment.

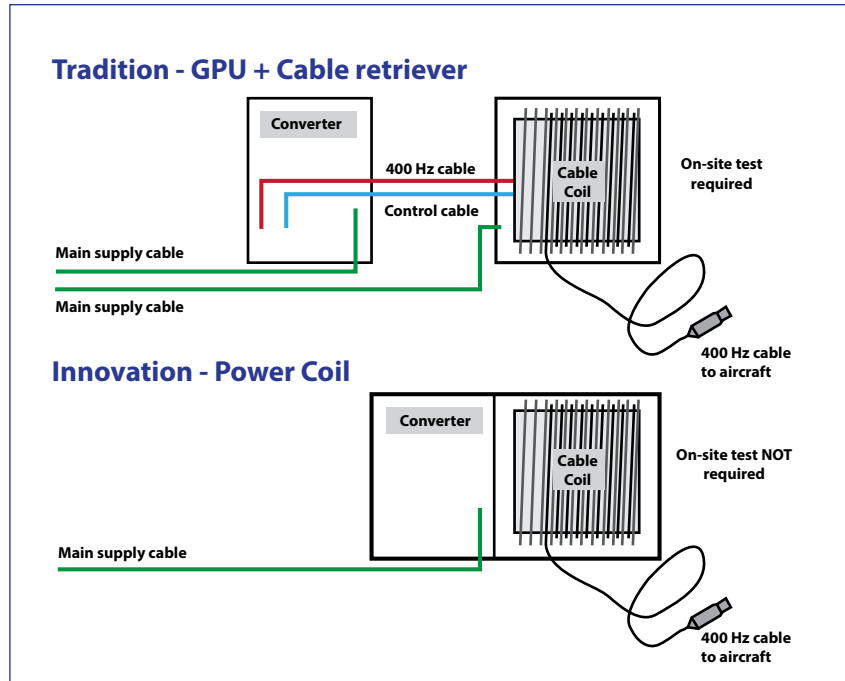
**Pioneering Product Design**

Because the 2400 Power Coil is designed as an enclosed unit, it is less susceptible to effects from exposure to the elements, such as sunlight and harsh weather, effectively minimizing maintenance costs.

ITW GSE is the only company that offers this unique voltage quality. The voltage control starts at the aircraft plug. Equipped with ITW GSE's patented Plug & Play system, there is automatic compensation for voltage drops along 400 Hz cables. This was designed to ensure—one thing that every airport strives for—on-time departures, as the voltage at the aircraft connector is kept within 115±3V. If the voltage falls out of the required range, the aircraft rejects the ground power unit holding up crews on-ground and on-board. The Plug and Play works within milliseconds, first analyzing a number of parameters and adjusts the voltage to level out to optimum voltage directly at the aircraft plug.

The Plug & Play operates in simple steps accessed through ITW GSE icon based user interface:

- The ground power units output cable is connected to the calibration plug and power up the ground power unit
- Once the screen has powered up and displays the “ready for use” message, the menu is accessed by pressing the center button for 5 seconds
- The arrows are used to scroll through the options and the operator presses the center button again to enter the perimeter list to get to the compensation type. Compensation type can be adjusted and selected by plug and play
- Heading back to the menu and select to identify the output cable
- Once cable has been identified and calibrated it can be started—operates simply need to remember to remove the output cable from the calibration plug. **GSW**



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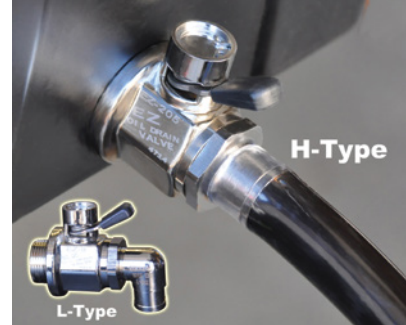
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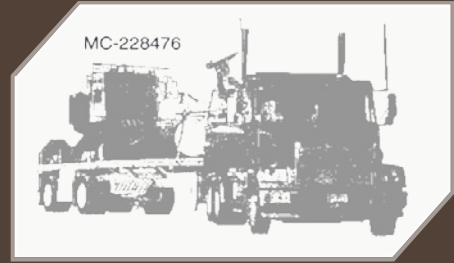
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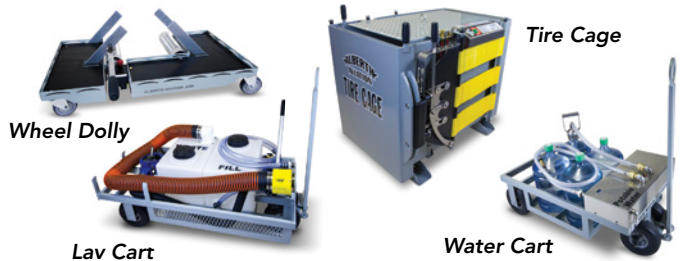
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▲ Editor - Alex Wendland  
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# Safety in Mind Will Save Your Behind

Ramp incidents are going to happen, but given the severity of two recent incidents, we need to find the “why” and increase situational awareness on the ramp.

In just two weeks we had two major ramp incidents come across the AviationPros news desk. An Air India technician was sucked into an engine following a series of protocol breaches and a fuel truck clipped the wing of a full aircraft waiting to take off at O’Hare.

I was talking with Ron Donner, editor of our sister publication, *Aircraft Maintenance Technology* and a longtime aviation professional himself, about what might be causing these incursions that are serious enough to make the news. The first topic I brought up to Ron was training. Are ramp staff being undertrained?

“Training for technicians and ramp employees in airline environments is generally fairly robust and ongoing,” Ron replied. “So I wouldn’t say the primary causal factor was not being trained. However, it’s hard to say if the training standards at a company like AI are the same as say an American Airlines.”

For its part, the International Air Transport Association (IATA) offers a Ramp Services training course that includes a \$75 discount for developing nations. But Ron made another point, and he’s right – we don’t know what standards international firms are holding their employees to. Given some of the issues Air India has had with ramp staff – I recommend a Google search for “Air India gold smuggling” – I have good reason to question the seriousness with which some consider their work.

The larger issue is comfort. Complacency. Call it

what you will, but the ramp is a decidedly dangerous place. At the same time, there’s a good chance something will cease to feel dangerous if you do it every day.

“I feel ramp employees do understand the dangers but like anything, human nature causes use to become comfortable in the surroundings, leading to less focus, perhaps even intentional risk taking,” Ron says.

There is nothing more important on the ramp than the safety of everyone involved. We constantly need to be reminded of situational awareness, even to the point of patronizing, because the effects of human factors can lead to errors, and errors can result in tragedy.

“Situational awareness is not just a pilot thing,” Ron told me. “Working around noisy, fast-paced environments like busy airport ramps requires everyone to have situational awareness.”

Brutal winter weather has finally found us here in Wisconsin, so I’ll leave you with an apt mantra, cruel as it may be: Stay frosty, friends.

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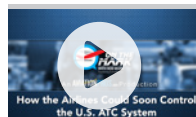


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