

INDUSTRY EXPERT COLUMN

It's Time for a New Ground
Handling Approach

PAGE 12

GROUND SERVICE PROVIDERS

Take Steps Toward
Eliminating Hangar Rash

PAGE 20

INTERNATIONAL

Communication's Critical
Function in Catering

PAGE 24

Ground Support

AUGUST 2023

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PAGE 36

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COVER STORY

14 **Connecting Fuelers to the Cloud**

By collecting more data, fuel providers can harness the advantages of smart metering.

FEATURES

18 **The Benefits of iOPS Boarding Bridge Technology**

iOPS helps monitor gate equipment operations to maximize efficiencies.

20 **Take Steps Toward Eliminating Hangar Rash**

Safety management systems and software can help reduce this kind of aircraft damage from occurring in and out of the hangar.

24 **Communication's Critical Function in Catering**

Establishing clear lines of communication between airlines and caterers leads to success for both parties.

28 **2023 International GSE Expo Preview**

The premier event dedicated to ground support equipment returns to Las Vegas Sept. 26-28.

34 **How Electric Deicers Contribute to Ground Handling Sustainability**

Vestergaard's Elephant e-Mini MY Lite offers fully electric aircraft deicing at regional airports.

DEPARTMENTS

- 8 **Business Buzz**
- 36 **Product Hangar**
- 42 **Ground Support Spotlight**

PERSPECTIVES

- 6 **Editor's Note**
- 12 **Industry Expert Column**



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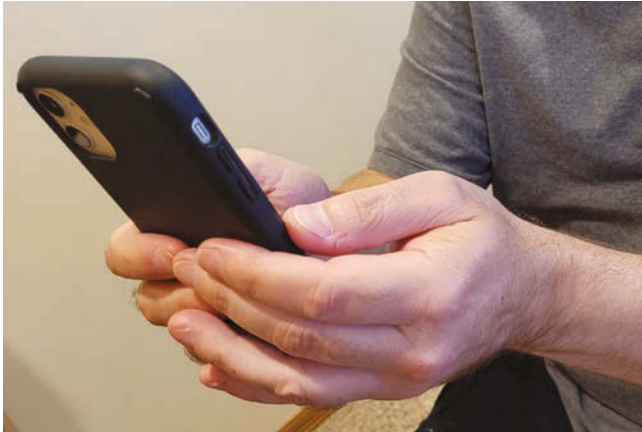
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ONLINE EXCLUSIVES



The Importance of Testing Mobile Apps

AviationPros Staff

Ever start using a new app and got the feeling that no one tested it to make sure it works?

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ARTICLES



The Difference Between Airport Environmental and Sustainability Projects

By Joe Petrie

While some terms are often used interchangeably, they represent distinct areas of focus with different objectives.

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VIDEOS



SEA Restroom Renovation's All-Gender Restroom Art

Art pieces represent the region and the LGBTQIA+ community.

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PODCASTS

Battery Chemistry and Its Impact on eGSE

Flux Power CEO Ron Dutt talks about lithium iron phosphate chemistry and more.

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10 Essential Skills for Airport Leaders to Succeed

By Joe Petrie

Know what it takes to make it in a career in airport management.

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Editor's Note



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The ACT's Mature Approach to eGSE

Developing the infrastructure needed to support the industry's migration to electric equipment will require cooperation between all stakeholders.

With ambitious environmental goals, including a target of net-zero emissions for all American airports by 2050, the aviation industry is working diligently to reduce its carbon footprint.

A key component to these goals is the migration from diesel-powered ground support equipment to electric units.

The American Association of Airport Executives' (AAAE) Airport Consortium on Customer Trust (ACT) tasked its Sustainable Energy and Resiliency working group to better understand energy capacity at airports and conduct a pilot study on how electric ground support equipment (eGSE) chargers are being utilized at airports.

ACT's working group suggests airports utilize a maturity model to gain a deeper understanding of that location's energy capacity. According to ACT, a maturity model can be used as part of an airport's master planning and sustainability planning processes.

"A maturity model helps an airport to understand the current demands on its facilities and seeks to determine which assets are consuming energy, how much additional power is needed for electric chargers, and where the additional power will be found," say the authors of the working group's whitepaper published in June.

To establish a maturity model for airports, ACT's working group developed an energy assessment to use at airports. The assessment was designed to analyze energy efficiency and identify decarbonization opportunities, taking into account systems like HVAC, lighting and building controls, among others.

"This helps to measure the area's specific carbon emissions against the portfolio total to indicate where reductions would have the highest impact," the whitepaper's authors note.

According to the ACT working group, the next step in developing the maturity model was to look at how an airport measures, tracks and controls energy usage. From there, the maturity model can determine infrastructure needs by highlighting all electrification requirements, so the necessary resources can be made available.



2050

"The final step in developing the maturity model is to validate findings through an onsite study, which could uncover more targeted decarbonization opportunities," the whitepaper authors say.

With the maturity model in place for the pilot study, the whitepaper yielded several takeaways pertaining to eGSE infrastructure. A need for policy development and planning and an effective communication plan between airports and eGSE users were identified as key lessons learned.

Other recommendations from the pilot study included performing demand analysis per use case and working with airline tenants during the planning process.

Adopting eGSE will help airports, airlines and ground handlers meet the industry's environmental goals. But developing the infrastructure required to support this influx in electric equipment will require cooperation between all stakeholders.

Utilizing a mature model could be the answer to ensuring the needs of all involved parties are met sufficiently. **GSW**



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TOP NEWS

Menzies and i6 Partnership Brings Fuel Management Tech to More UK Airports

Menzies Aviation has extended its partnership with i6, a leader in digital fuel management technology, to four additional UK airports, including London Stansted, Leeds Bradford, Birmingham and Teesside International.

Technology being deployed at the four additional UK airports in conjunction with Menzies includes Fusion6, an into-plane refueling platform, and Rec-oncile6, a fuel inventory management

platform. Together, they offer a range of benefits such as saving operational costs, improving safety, and providing real-time refueling information and fuel optimization.

“By enhancing the digitalization of our operations with industry-leading technology, we continue to lead the way with safe and efficient aviation services,” said Marco di Mario, SVP fuels, Menzies Aviation.



Oshkosh Corporation to Acquire AeroTech Business from JBT Corporation

Oshkosh Corporation has entered into a definitive agreement to acquire the AeroTech business from JBT Corporation in an \$800 million all-cash transaction. When adjusted for the present value of expected tax benefits of approximately \$80 million, the purchase price is \$720 million. Upon close, AeroTech will become part of the Oshkosh Vocational segment.

“This transaction supports our ‘Innovate. Serve. Advance.’ business strategy as we enter the attractive air transportation support space with a market-leading portfolio of purpose-built products and comprehensive service offerings,” said John Pfeifer, president and chief executive officer of Oshkosh Corporation.

Unifi Aviation Acquires Up & Away, Expands to the UK

Unifi Aviation has acquired Up & Away, one of the UK’s leading aircraft services and private jet detailing businesses. Up & Away provides key aviation services, including cabin cleaning, deicing, private jet detailing, technical cleaning and other adjacent aviation services. It counts marquee UK and European airlines and global VIPs/dignitaries among its clientele.

Up & Away was founded in 2008 by Stefan Murphy and has grown exponentially under his leadership. Up & Away currently has a presence in 13 UK airports.

Unifi aims to grow its UK business to more than \$120 million in the region over the next three years.

Upcoming Events

Sept. 12-13

7th Annual NATA Ground Handling Safety Symposium (GHSS)
Fort Worth, Texas

Sept. 20-22

ASA Leadership Forum 2023
Athens, Greece

Sept. 20-22

ACHL – Air Cargo Handling & Logistics
Athens, Greece

Sept. 20-22

ULD Care Annual Conference
Athens, Greece

Sept. 26-28

2023 International GSE Expo
Las Vegas, Nevada

Sept. 27-28

Global Urban & Advanced Air Summit (GUAAS)
Singapore

Sept. 30-Oct. 3

2023 ACI-NA Annual Conference and Exhibition
Long Beach, California

“More than 224 million passengers traveled to and from airports in the UK in 2022, and we are confident that our knowledge and experience from operating in 200+ airports, including the world’s busiest, will allow Unifi to replicate its success in the UK and provide the customers an exceptional experience,” said Unifi CEO Gautam Thakkar.

Murphy will become Unifi’s managing director based in the UK.



"I have been fortunate to build this company from the ground up. I look forward to this immensely exciting phase of growth, and joining a leading aviation services organization like Unifi opens new doors. I want to thank George Rolls, our former chairman, for his astute guidance and unwavering support through the formative years of the business and recent negotiations. I also want to thank all of Up & Away's staff and customers for their loyalty and contributions, without which this exciting expansion would not be possible," added Murphy.

Skytanking Acquires Star Handling from Esken

Skytanking UK Ltd, a wholly owned subsidiary of PrimeFlight Aviation Services, Inc., has acquired the entire shareholding of Star Handling Limited from Esken.

"We are excited to welcome the ground handling expertise of the Star Handling team into the Skytanking and PrimeFlight network, and we look forward to working together to expand our global ground handling footprint," said Amir Ibrahim, EVP for Skytanking.



Star Handling provides ground handling, passenger services and airside logistics support at Manchester and London Stansted airports through the support of more than 200 employees. Esken will continue to operate its ground handling services at London Southend Airport.

WFS Signs 15-Year Lease on New Cargo Terminal at ORD

Worldwide Flight Services (WFS), a member of the SATS Group, has increased its cargo capacity at Chicago O'Hare International Airport.

WFS signed a 15-year lease on the new facility in the airport's Northeast Cargo



Area. It provides an additional 122,000 sq. ft. of warehouse space, 10,000 sq. ft. of office accommodation, and some 200,000 sq. ft. of ramp space.

"This new facility and investment reinforces WFS' long-term commitment to Chicago O'Hare International Airport and its airline and logistics customers. With on-site ramp handling, brand new equipment and sustainability features, it significantly enhances our presence at the airport and provides the growth capacity we need as a leading provider of safe, secure and high quality handling services at one of the premier air cargo gateways in the United States," said Frank Clemente, SVP cargo, North America at WFS.

Swissport Grows its Pharma Business

Swissport is growing its network of temperature-controlled warehouses with the latest opening of a 400 sq. m. facility at Dublin Airport, the first of its size at the Irish capital's airport.

The new cold storeroom is fully dedicated to pharmaceuticals, being able to hold up to 200 palletes.

With the opening, Swissport significantly adds handling capacity for major pharmaceutical suppliers in the region and supports Ireland's position as one of the largest net exporters of medicinal and pharmaceutical products within the EU.



"We are delighted to open this brand-new facility which will play a vital role in the supply chain of pharmaceutical goods in Ireland," says Karen Cox, managing director and CEO of Swissport in the UK and Ireland. "Our customers from the pharmaceutical industry can now also rely on our professional services for temperature-controlled freight at Dublin Airport, supporting them with high quality handling services along the cool chain."

The facility has been built in partnership with Celtic Cooling and consistently operates between 15 to 25 degrees Celsius.



National Air Cargo Receives IATA's CEIV Lithium Batteries Certification

National Air Cargo recently received the Center of Excellence for Independent Validators (CEIV) Lithium Batteries Certification by IATA for its safe handling of dangerous goods, specifically lithium batteries during air transportation.

"Handling and transporting dangerous goods needs special care. Achieving CEIV Lithium Batteries certification means NAC's customers can benefit from extra assurance that their cargo is in safe hands," said Brendan Sullivan, IATA's global head of cargo.

"We are extremely grateful to receive the CEIV Lithium Batteries certification, which recognizes our commitment to ensuring the safe transport of specified dangerous goods. This recognition is also an enhanced safety assurance to our government and commercial customers availing our premium charter services for transporting classified dangerous goods including lithium batteries," said Chris Alf, chairman, National Air Cargo Holdings, Inc.



Japan Airlines Cargo Obtains CEIV Pharma Certification

Japan Airlines (JAL) has obtained its second CEIV Pharma Certification, a quality certification system for pharmaceutical transportation established by the International Air Transport Association (IATA). This makes JAL the only airline in Japan to have both CEIV Pharma Certification and the largest pharmaceutical temperature-controlled warehouse.

JAL reconstructed its organizational structure and management system related to pharmaceutical transportation at Narita Airport to obtain the certification.

JAL will be able to offer a complete CEIV Pharma Certified supply chain, including airports and flights, together with cargo agents who have already received this certification. This allows

JAL to expand not only pharmaceutical exports from Japan to overseas, but also import and transit demand from Europe and America, the world's pharmaceutical production bases, to Japan.

DC Aviation Al-Futtaim FBO Receives IS-BAH Stage 3 Accreditation

DC Aviation Al-Futtaim (DCAF) has received the International Standard for Business Aircraft Handling (IS-BAH) Stage 3 certification for its fixed-base operations (FBO) located at Dubai South.

DCAF received its Stage 1 certification in May 2019 and Stage 2 in January 2021.

With the Stage 3 certification, DCAF became one of only two FBOs in the Middle East and among 27 organizations globally to attain this highest level of safety standard established by IS-BAH.

"At DCAF, we are fully committed to providing the highest levels of safety standards and industry best practices. It is front and center for everything we do," said Christopher Eden, director of ground operations at DCAF.

Aviation Associations Publish SAF Book and Claim Guidance

The Council on Sustainable Aviation Fuel (CoSAFA) introduced its "Global Methodology for SAF Environmental Attribute Transactions," a first step in establishing publicly available, universally recognized procedures for sustainable aviation fuel (SAF) accounting and auditing to support global book and claim systems. The guidance details the information and procedures necessary for individual book and claim systems to transparently and credibly transact SAF's associated environmental benefits.

"The transition to sustainable aviation fuels will be the greatest contributor to business aviation achieving NetZero carbon emissions by 2050. Book and claim systems are required for wider SAF uptake, especially in areas where it's not yet readily available. We applaud CoSAFA's efforts to develop this transparent, credible B&C accounting and auditing methodology," said Capt. Claude Hurley, director, Environment & Flight Operations at the International Business Aviation Council (IBAC).

PEOPLE

Jettainer Appoints Svenia Iriarte as its New CFO

Jettainer has appointed Svenia Iriarte as its chief financial officer. Iriarte replaces Ingeborg Manz-Maier, who retired early, after 14 years.

"A warm welcome to Svenia Iriarte, an outstanding expert in finance, who will help us continue on our growth trajectory. Her

extensive expertise in internationally oriented management tasks and her focus on sustainable growth and cost optimization make her a perfect fit to join our management team," said Jettainer CEO Thomas Sonntag.



Iriarte

IAG Cargo Appoints New Head of Pharmaceutical

IAG Cargo, the cargo division of International Airlines Group (IAG), has announced the appointment of Jordan Kohlbeck as head of Pharmaceutical.

Kohlbeck assumes his new position as IAG Cargo opens its new cargo handling facility, New Premia, which features a cutting-edge Constant

Climate Quality Centre (CCQC) with 27 dedicated cool cells for pharmaceuticals to guarantee temperature sensitive shipments are held in the right conditions.

"Pharmaceutical transport is a crucial aspect of our business and plays a vital role in ensuring the health and well-being of people around the world. We are thrilled to have a dedicated

professional driving the ongoing advancement of our cold chain operations," said John Cheetham, chief commercial officer at IAG Cargo.

"I am excited to continue my work in supporting transformation at IAG Cargo and providing an important service for the pharmaceutical industry as a trusted partner in their supply chains," Kohlbeck added.

Stertil-Koni USA Adds Position of General Manager

Stertil-Koni USA Inc. announced Scott Steinhardt has been promoted to the newly created post of general manager.

In his new position, Steinhardt will be responsible for managing the sales, marketing, operations and service departments.

The announcement follows a year of growth in which Stertil-Koni achieved

record lift orders, sales and installations.

“To be successful in the heavy duty vehicle lifting industry requires vision, fortitude, plenty of hard work and an indomitable spirit to deliver exceptional customer service – every time. Whether it is embracing new technologies, championing new product development, building successful teams or winning competitive bids, Scott has demonstrated these

attributes time and again. He has made a tremendous contribution to the growth of our company across multiple fronts in the relatively short period that he has been with Stertil-Koni,” said Stertil-Koni president Dr. Jean DellAmore.

Steinhardt joined Stertil-Koni in early 2022 as vice president of sales and was recently promoted to vice president of sales and marketing.

NEW DEALS

dnata Catering and Retail Extends Partnership with Lufthansa and Swiss in Singapore

dnata extended its long-standing partnership with Lufthansa German Airlines and Swiss International Air Lines in Singapore. The multi-year extension of the contract will see dnata continue to provide quality inflight catering services to the carriers from its advanced facility at Changi Airport (SIN).

dnata's highly trained teams will produce and uplift more than 700,000 meals annually to ensure a world-class dining experience on board the two airlines' flights. Lufthansa and Swiss currently operate a total of 21 weekly services out of Singapore.

“We are proud to be the inflight caterer of choice for Lufthansa and Swiss, two leading international carriers that are both renowned for their commitment to quality. We will



continue to work closely with the airlines' team to contribute to their excellent on-board experience by delivering innovative menus and delicious meals that passengers love,” said Hiranjan Aloysius, CEO of dnata Catering and Retail Australia and Singapore.



Neste and World Fuel Services Expand the Availability of SAF at European Airports

Neste and World Fuel Services are expanding the availability of Neste MY Sustainable Aviation Fuel in Europe.

The expansion provides World Fuel with greater access to sustainable aviation fuel (SAF) for European commercial, business and general aviation customers and contributes to further reducing carbon emissions in the aviation industry and responding to increasing demand for SAF.

With greater volumes of SAF from Neste, World Fuel is increasing the number of European airports they can supply with SAF from 13 to over 40. This collaboration also paves the way for expanding the accessibility of SAF to more than 100 airport locations presently in World Fuel's European network.

“We are excited to have created a framework that enables us to more reliably provide our customers across Europe with SAF in a timely and expedient manner,” said Duncan Storey, vice president, supply aviation Europe, World Fuel Services.

BGS Strengthens Partnership with Freebird Airlines

BGS has strengthened ties with Turkish charter carrier Freebird Airlines by

extending the scope of cooperation. The companies have renewed a contract for into-plane fueling at Kaunas Airport, Lithuania, and signed a new agreement for providing fuel at Ostrava Leos Janacek Airport, Czech Republic. Under the agreement, companies will remain in partnership till the end of March 2024.

“We are proud to further build on our existing partnership with Freebird Airlines. The extension of our services is a clear indication of the airline's confidence in the quality and efficiency of our operations. We are committed to continuing on this path, delivering the highest level of service to our customers,” said Vitalis Dudys, head of Commerce at BGS.

Earlier this year, BGS also renewed contracts with Ryanair, Smartwings, and Wizz Air for into-plane fueling.

It's Time for a **NEW GROUND HANDLING APPROACH**

Challenges faced by low-cost carriers have prompted them to explore new ways of generating revenue, with carriers increasingly moving to a hybrid method.

BY MABEL KWAN

There's a valuable opportunity on the horizon for ground handling agents (GHAs). By adapting their offering and adopting new technologies, they can future proof their business models, better support airlines and enhance their sustainability credentials.

Such a shift is increasingly necessary as sustainability climbs the agenda, with airlines simultaneously trying to adapt their business strategies in response to the well-documented industrial challenges, such as inflationary pressures and staff shortages. Specifically, low-cost carriers (LCCs) have evolved their businesses to meet the demands of a changing landscape, incorporating elements of full services offerings into their low-cost high efficiency model.

The ground handling model looks to become more rather than less complex. New LCC models mean they will have different requirements of GHAs. As such, the successful GHAs of the future will be those that adopt technologies and processes to stay ahead of a dynamic industry.

How GHAs Can Adapt

The challenges faced by LCCs have prompted them to explore new ways of

generating revenue, with carriers increasingly moving to a "hybrid" approach that places them between traditional LCCs and full-service carriers (FSCs).

Some LCCs have expanded beyond offering pure point-to-point services to instead provide travelers with connection opportunities. This represents a break from traditional models, in which LCCs did not provide connection options on airline booking engines and instead required passengers to self-connect with no facilitation at the airport.

For GHAs, this means processes need to be re-engineered to meet connection time requirements. Despite the additional cost, dedicated processes and resourcing for connecting passengers and baggage has been utilized by some airlines and GHAs to meet performance expectations. It can be as simple as pre-sorting transfer baggage at outstations into different sections of the aircraft hold or implementing consistent handling process and policies for main interline transfers.

Other moves to generate revenue streams have included LCCs offering longer-haul flights, taking advantage of the latest equipment, and reduced operating costs to enter a market typically considered the preserve of full-service

carriers with wide-body aircraft. While service requirements may increase, it also creates opportunities for GHAs to procure additional ancillary revenue through marketing value-added services such as upgraded seats, meals and amenities during check in or boarding.

Additionally, despite 98 percent of the global LCC fleet currently comprising narrow-body aircraft, some LCCs have begun to take on wide-body aircraft to operate a mixed fleet. Around 40 wide-body aircraft are on the order books of six LCCs. This has enabled LCCs to explore entering the cargo business, which they have traditionally avoided because of narrow-body belly hold limitations. LCCs like Air Asia are also introducing freighters into their fleet.

GHAs will need to prepare by ensuring they have effective processes and equipment in place to handle air cargo (some of which are time and temperature sensitive), while meeting requirements for short LCC turnaround times.

The Role of Technology

The additional process requirements in response to new LCC models need to be complemented by technology to drive organizational cost efficiency.



Ground handling digital optimization, including automated data capture in aircraft and ground communication systems to provide real-time visibility across the ecosystem, can facilitate preventive intervention.

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GHAs will need to ensure they have effective processes and equipment in place to handle air cargo, while meeting requirements for short LCC turnaround times.

ALTON AVIATION CONSULTANCY

One example is ground handling digital optimization, including automated data capture in aircraft and ground communication systems to provide real-time visibility across the ecosystem, which can facilitate preventive intervention.

And while there has been technological progress in monitoring aircraft turnaround activities and utilizing data to understand root causes behind delays and operational issues, there is an opportunity to harness advanced technology, such as artificial intelligence (AI), to implement dynamic planning and create business intelligence tools, thereby improving productivity.

For example, real-time GSE location tracking allows GHAs to analyze the utilization of assets and enables managers to make data-driven procurement decisions and rightsize their fleet at every airport. AI can be used to forecast passenger flow weeks in advance and enable a productivity-boosting approach to planning, alleviating bottlenecks at key touchpoints.

From a passenger standpoint, the use of sensors and internet of things (IoT) technology offers the possibility of more customized and personalized

experience, such as the ability to provide real-time information on queue times, flight status and baggage status.

Seeking Sustainable Solutions

Technology developments engineered to drive efficiency and streamline ground handlers' operations can also support sustainability initiatives. These developments will be a key differentiator to achieving long-term environmental goals. Though its primary aim is focused on business optimization, saving time and resources can have a positive influence on the environment and provides a win-win situation for company executives.

For future-focused GHAs, adapting to offer better business outcomes should be married to efforts to behave more responsibly for the planet. These efforts to drive sustainability will have to be coordinated within the ecosystem. Only progress in a multi-stakeholder, multi-pronged approach can pave a path towards net zero, which means that GHAs must play their part.

This includes addressing the extensive fleet of ground support equipment (GSE) vehicles that are typically operated by combustion engines. There has already been significant progress when it comes to the transition to electrification, such as from the likes of Worldwide Flight Services (WFS), which provides cargo and ground handling services at seven airports in Spain and has already turned 89 percent of cargo handling-related GSE fleet to electric. Electric operational towing and taxiing

solutions are also being devised for most aircraft and expected to be completed by 2025.

Moving to a True Partnership

For GHAs to cement their value with airlines, they also must forge deeper relationships – moving from agent-client interactions to genuine partnerships.

This involves elevating the role GHAs play. As airlines continue to channel more customer services online and push passenger self-service initiatives, passenger handling agents, for instance, should become more than operational processors at counters, instead taking on the role of customer service ambassadors who are able to handle issues and build airline customer loyalty.

Ultimately, the future of GHAs will be defined by their ability to respond to the demands of the future, today. That means embracing a more sustainable approach while tailoring strategies that meet the evolving needs of their airline partners and elevating relationships.

The need to adapt and form deep partnerships that keep pace with shifting models is more important than ever. **GSW**

ABOUT THE AUTHOR

MABEL KWAN

Mabel Kwan is a managing director at Alton Aviation Consultancy in Singapore. She is a co-author of Alton's recently published industry whitepaper titled "Sustainable Efficiency: The Future of Ground Operations at LCC Hubs."



CONNECTING



Smart meters should be comprehensive and flexible to meet the wide variety of needs that exist in aviation fueling.

TCS

FUELERS TO THE CLOUD



By collecting more data, fuel providers can harness the advantages of smart metering.

BY JOSH SMITH

The idea behind smart metering for airport fueling activities has existed in some form for decades.

In the 1990s, temperature correction capabilities and electronic ticketing were considered smart metering functions. At the turn of the century, monitoring differential pressure and utilizing wireless communication for data collection highlighted new features of smart metering systems.

And with time, the types of data that refuelers sought have evolved and grown, requiring smart metering to be redefined yet again as data from more components is being tracked and incorporated into electronic flow meters.

“When you talk about smart metering, that’s really when it got deep because then we started collecting that information from all over – from different components of the refueler – and getting that pushed up to the cloud,” explains Dan Murray, president at Total Control Systems (TCS).

From recording data to measuring fuel and additives and tracking quality control processes on a refueler or at a tank farm, smart metering allows for accurate, efficient fueling operations.

“Smart metering covers a lot,” Murray says.

“You’re trying to support the fleet management groups, the equipment groups – like the World Fuels, the Signatures, Avfuels, Titans. And then you’re supporting the large network FBOs. There’s a lot going on,” he continues. “Everybody has a unique take on what they want. Being able to be diverse enough to manage all the different requests that come through is a challenge.”

To better assist refuelers with their daily operations, companies like TCS collect information from an electronic flow meter, store it in the cloud and present it to customers in a way that allows a deeper understanding of all fueling activities.

“Trying to get the information from that meter to the cloud is the name of the game,” Murray says.

Focus on Flow Meters

To take advantage of smart metering, having a flow meter capable of recording data is a must.

As Murray notes, the flow meter is the custody transfer/resell device, allowing fuel distributors to record fuel

deliveries to an FBO and that FBO to record fuel uplifts into aircraft.

“That meter became the focus point for all the data collection – trying to measure the differential pressure, the water content, your additive, your tank level, your temperatures and density – and putting it into one fuel record that we store in the cloud,” Murray says.

“They use that statistical data to take a look at the overall operation, the efficiency of the vehicle and their fueling system, and the maintenance.

“They can do their predictive maintenance off that,” he adds. “They can read the data from the refuelers.”

An electronic flow meter on a refueling truck, coupled with an app or software, allows data to be gathered.

“You need the electronic flow computer. That’s going to collect the information that we’re talking about on the refueler,” Murray says. “And from there you need a communication device to get that data to whatever end point that may be. That could be the back office accounting software. That could be in equipment maintenance software. It could be just a launchpad to collect the data and then push it on to another accounting software.

“The main thing is they got to have electronics on the vehicle,” he says noting electronic flow meters can be retrofitted to existing vehicles.

What Data is Collected, and Why

Depending on the individual operation, the most pertinent data will vary. Fueling data can be used for long-term record-keeping, immediate point-of-sale documentation and much more.

For example, Murray says an into-plane agent is likely interested in recording flight numbers. Then the ground handling agent can record the flights that he or she is fueling, the time they started and finished the uplift, as well as the volume uplifted.

Alternatively, Murray says an FBO may be looking for the aircraft’s registration number, so a receipt for fuel can be created immediately and delivered to an operator quickly.

For a fleet company or a fuel marketer like World Fuel Services, Signature, Avfuel or Titan, smart metering helps fleet managers keep their vehicles up and running for branded FBOs.

“They’re looking for the error codes, they’re looking for the fault points, so they can keep their trucks in continuous operation and not have any downtime,” Murray says.

“Everybody’s got a different slice that they’re paying attention to.”

The key to utilizing data is making sure the information can be consumed efficiently.

At Total Control Systems, the company’s TCS Hub allows users to configure



Depending on the individual operation, the most pertinent data will vary. Fueling data can be used for long-term recordkeeping, immediate point-of-sale documentation and much more.



TCS

TCS worked with Phillips 66 and the National Air Transportation Association (NATA) to create a screensaver with the Save a Life, Verify Fuel Type logo to promote ramp safety.

dashboards to display whatever is most important to a specific operation.

“Is it the tank farm? You’re just kind of keeping reconciliation with what the tank farm was doing for that day. Is it your mobile fueling? What’s your mobile stock levels?” Murray offers as an example. “And then you got a ticketing screen. You see all the data coming through and you’re verifying that that data delivery that we’re recording is actually mirroring what’s going into the back office accounting software. So it’s a verification process.”

Report information is customizable, allowing users to generate reports for any data they need. Reports can be generated based off an aircraft’s registration number, which piece of equipment was used for refueling or based on which staff member conducted the uplift.

“Say you have a pilot. He’s put an order in for 400 gallons of jet fuel with FSII (fuel system icing inhibitor),” Murray says. “That pilot should be looking at that receipt to make sure he got that 400 gallons and how much FSII went along with it. We can provide that data.

“We can tell him exactly how much additive he got, how much jet fuel he got, if he got it or if he didn’t,” he continues. “You can actually have all that there and actually control the additive pumps accordingly. All that is extremely important.”

Electronic flow meters offer preset configurations to ensure accuracy and safety. Additionally, the meters can automatically calculate fuel uplifts by weight, removing that requirement from a human’s list of tasks.

“You can actually have the delivered volume, as well as the delivered weight, on the same screen and on the same delivery ticket,” Murray says, noting temperature and density correction can also be programed into the unit in addition to other safety features.

If the refueler detects readings outside of threshold limits, the smart meter can end delivery of fuel.

“That is a major safety component. If your filtration has basically deteriorated, so the flow rate increases so much, we put a limit in there. You obviously had a filter blowout, so we end the delivery,” Murray says. “If your differential pressure is too high, we end the delivery. If your additive rate has fallen out of tolerance, we end the delivery. So, we’re always making sure that your fueling is on point.”

TCS also worked with Phillips 66 and the National Air Transportation Association (NATA) to create a screensaver with the Save a Life, Verify Fuel Type logo.

“The first thing the operator does when he’s looking at the register, he sees that logo before he hits start,” Murray says. “It’s all in an effort to try to promote more safety on the airport.”

Future Outlook

Smart metering has evolved over the last two decades, and Murray anticipates seeing more improvements, particularly streamlining how data is shared.

“You’re going to see more fluidity from the smart metering technology to the back office,” he says. “We’re getting there. It’s just going to be a lot more



TCS

From recording data to measuring fuel and additives and tracking quality control processes on a refueler or at a tank farm, smart metering allows for accurate efficient fueling operations at airports.

efficient in the future. You’re seeing that with electronic tickets.”

Murray reiterates that smart meters should be comprehensive and flexible to meet the wide variety of needs that exist in aviation fueling.

“It’s about efficiency. How quickly can we actually deliver fuel to the customer and get a receipt in their hands,” Murray says.

“There’s lots of reasons why people use this information,” he continues. “In the future, it’s going to be about record-keeping SAF (sustainable aviation fuel). How much fuel, what percentage of that fuel is SAF and what kind of emission credits they can earn and pass on.”

Because the fueling operators are seeking a vast range of data, Murray emphasizes the importance of adopting new technology so the needs of the industry can continue being met. **GSW**

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The Benefits of iOPS Boarding Bridge Technology

iOPS helps monitor gate equipment operations to maximize efficiencies.

BY REBECCA KANABLE

It pays to know not only where equipment is, but what it's doing and how it's performing. iOPS (Intelligent Operations Performance Systems) from JBT monitors gate equipment operations, ground support equipment (GSE) and baggage handling systems. The platform can provide actionable information on the status, performance and faults of the equipment.

Monitoring various systems, iOPS gives operations a go or no go signal. Green means the equipment is ready and usable, while a red X indicates equipment is out for maintenance or inoperable. Green with a red box means there's an alarm that needs looking into.

Most commonly, John Thompson, JBT vice president of global gate equipment sales, says customers use iOPS to monitor GSE for common alarms and failures, turn performance and operational statistics.

Looking specifically at the benefits of using iOPS with passenger boarding bridges (PBBs), Thompson says, "iOPS gives real-time, actionable information about the PBBs anywhere you have access to the internet. There is no need to be on site at the equipment to be able to troubleshoot issues. This is the real advantage to iOPS."

Without iOPS, Thompson says operators need to be at the PBB to find out what the issues are and try to diagnose them through the limited human machine interface (HMI) screen.

"Having information at your fingertips (at your computer or on your phone) about how a bridge is operating can save valuable time and resources," he continues. "Just picture an international flight has landed at JFK and half of those passengers need to get through customs to make their next flight, and the PBB will not move because someone pressed an E-stop. Something so simple could be fixed in seconds and could stop a flight from being delayed 30 minutes or more."

iOPS can be used to ensure the gate and boarding bridge are ready for the aircraft turn, monitor how the boarding bridge is being operated, how long the docking process is taking, and if there are any safety or training concerns. Using the technology to manage personnel, fleet and operations, Thompson says the goal is to improve operations, reduce equipment downtime and save money.

Customers who use iOPS with boarding bridges include airlines, airports (Thompson notes maintenance departments love the ability to remotely monitor their equipment.) and third-party maintenance providers, as well as ground handlers, cargo handlers and military.

To use iOPS with a boarding bridge, the boarding bridge doesn't have to be new. Thompson says passenger boarding bridges can be upgraded to take advantage of new technologies



iOPS is monitoring, tracking and diagnostic software.

to help improve performance and operations.

Customers who use iOPS for boarding bridges also use the technology to monitor the GSE, including ground power units (GPUs) and pre-conditioned air units (PCAs), that attach to the boarding bridge. Mobile GSE commonly used with iOPS includes pushback tractors, deicers and other mobile equipment, along with rooftop units and visual docking guidance systems.

To use iOPS with a passenger boarding bridge, iOPS can be installed and monitored through cell service or hardwired – if the boarding bridge has communication lines back to the building.

"Either way, the installation is simple and can be accomplished between flights on an active gate," Thompson says.

What can be monitored?

"Basically, we monitor every point that is gathered into the PLC (programmable logic controllers) of the PBB," he says.

According to Thompson, this could be hundreds of points monitored and displayed – to only a few including the PBB docking status and preconditioned air unit (PCA) on/off status.

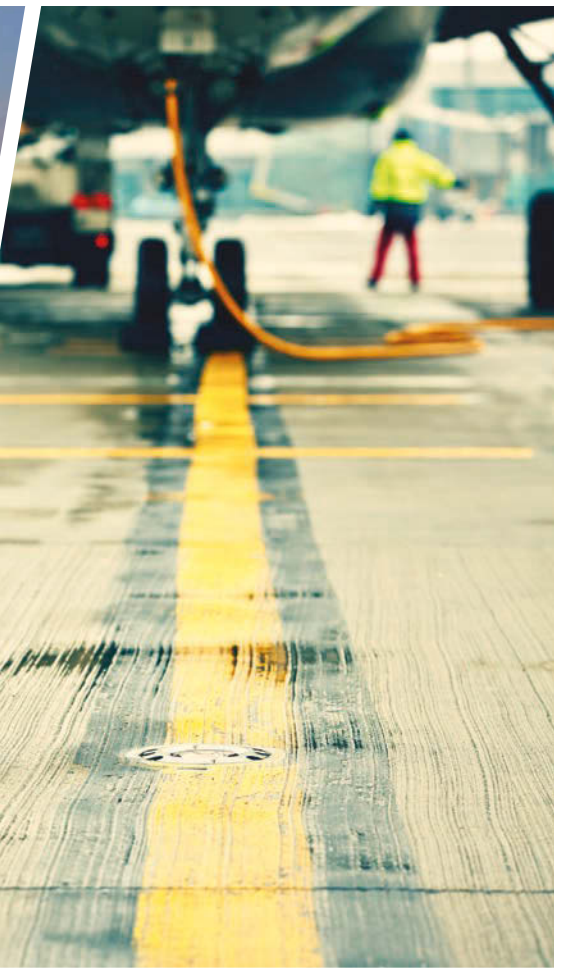
Also monitored are site-specific alarms based on customer needs.

"We can set up any alerts of end-users and display them how they choose," he says. "iOPS can be very custom and site specific. A good example of a custom alert build is one we call 'PCA not meeting performance.' This is a notification that the PCA is operational, but not meeting design condition."

iOPS also can be used to monitor how long the docking process is taking, and an add-on feature that uses cameras and stores video footage for seven days can be used to identify and point out training or safety concerns.

"With the iOPS AI Vision systems, we are able to detect when safety items are not being used, which could cost hundreds of thousands of dollars in damage," Thompson says.

Lastly, iOPS can also be used to contact JBT for equipment parts and service. **GSW**



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Take Steps Toward Eliminating Hangar Rash

Safety management systems and software can help reduce this kind of aircraft damage from occurring in and out of the hangar.

BY REBECCA KANABLE

As hangar doors were being closed by the ground staff, an airline pilot noticed the tail of a Beechcraft 1900D sticking out. Steve McNeilly, the pilot, recalls alerting the staff just in time to prevent the doors being closed on the tail. His awareness and the reaction by ground personnel prevented serious damage to the aircraft, commonly called “hangar rash.”

A safety management system (SMS) and other tools can be used to identify and address potential hangar rash hazards.

“The first challenge is accepting that none of us are perfect, and we can all do better when it comes to safety management,” says Terry Yeomans, program director for the International Standard for Business Aircraft Handling (IS-BAH).

IS-BAH, developed by the International Business Aviation Council (IBAC), is a set of global industry best practices for business aviation ground handlers.

Yeomans says towing should be a top safety concern of ground service providers.

“From the limited data IBAC has collected over recent years through its IS-BAH program, we can identify that towing is a causal factor in 29 percent of the approximately 2,500 aircraft damage events captured,” he says.

One of the approaches championed during the IBAC’s Fundamentals of IS-BAH Workshop is for ground handling service providers to consider breaking down day-to-day activities into bite-sized pieces. Looking at towing, Yeomans says ground service providers should consider different scenarios where towing events

are likely to play a part in the role of handling an aircraft. They could include towing an aircraft to or from a hangar or moving aircraft within the hangar.

Then, he says consider hazards, risks, control measures and communication.

- Hazards – Anything that has the potential to cause harm can be considered a hazard, Yeomans explains. Hazards could include extreme weather, a congested ramp (environment), a new aircraft type, new tow vehicles (equipment), new staff, fatigued staff, complacency, time pressures (people) and procedures (systems). Pick two hazards and consider which one concerns you the most.
- Risks – From the hazard that concerns you the most, he says think of the risks (likelihood and severity)

that arise from that hazard. Pick two risks and consider which one you believe you should deal with soonest.

- Control Measures – What can you put in place that could mitigate the risk and reduce its likelihood and/or severity, if anything?
- Communication — How do you pass those mitigation measures down the chain? Through training, bulletins or other ways?

After assessing hazards, risks, control measures and communication, Yeomans encourages ground service providers to review their findings. Then consider how often a crew might need to review the measures put in place for effectiveness while looking for any unintended consequences.

“Taking a piece-by-piece approach like this allows you to concentrate on what is important for you at your loca-

tion. Set appropriate targets and measure your performance against them,” he says. “These become your safety performance indicators (SPIs) that then can be seen to directly link to your top safety concerns and address your safety objectives.”

Brandon Popovich, manager of safety training for the National Air Transportation Association (NATA), emphasizes prevention starts prior to the movement.

“A pre-tow meeting conducted by the tow team is a place that the movement can be discussed prior to assumptions being made,” he explains. “The tow team lead, usually the tug driver but not always, discusses the aircraft movement including route to be taken, obstacles to be considered and final aircraft position. This meeting is brief and is usually conducted in a few short sentences.”

Other key prevention factors, according to Popovich are a positive attitude

and understanding of the movement.

“Involving the team during a risk assessment can reveal some areas of concern that may have not been known,” he continues. “Identifying these risks and implementing new or adjusted strategies could eliminate or reduce the risk of hangar rash incidents. Use of wing walkers and, when conditions require it, a tail walker; implementation of safety barriers within hangars; adjusting policies and procedures such as removing gear placement carpets prior to placing an aircraft in a hangar are examples of risks that could be identified using an SMS.”

Commenting further on removing gear placement carpets, he says, “the carpets are distractions. Removing the carpets prior to placing an aircraft in a hangar eliminates that distraction and places the focus on the aircraft, the wing walkers and/or obstacles.”

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Hangar rash, damage to aircraft on ground, can be ugly and a costly mistake.

According to NATA officials, improving safety performance allows ground service providers to reduce out-of-pocket costs for small hangar rash-type accidents, eliminate one or more insurance deductible payments and ultimately lower premiums. An SMS provides a data-driven approach to safety that will positively affect your bottom line.

Software

McNeilly, the pilot who prevented the hangar doors from being closed on the Beechcraft tail, today is an airline captain and A&P mechanic. He and Mike Partin, an A&P mechanic and previous FBO general manager and USAF mechanic, are co-founders of HangarStack and have prevented many more hangar rash incidents. They developed the HangarStack software to reduce hangar rash risks. In terms of solving problems of aircraft movement, Partin calls this “Airplane Tetris,” similar to the video game Tetris.

“It truly is about reducing risk, as risk introduces cost and the possibility of injury,” Partin says. HangarStack also

maximizes hangar space and revenue for the hangar owner/operator and the software is designed with those goals in mind.

Looking again at the Beechcraft hangar door incident, McNeilly says the airplane was not positioned in the hangar at the proper angle and the tail was protruding. He notes how critical aircraft positioning is, combined with the complexities of a high T-tail.

“Determining aircraft movements by looking at the space horizontally is very inefficient,” McNeilly says. “It’s like driving from A to B without ever looking at a map — it doesn’t make sense. Likewise, it doesn’t make sense to move and stack aircraft without a plan. HangarStack enables that planning process.”

When Partin was the general manager for an FBO outside of Chicago, he recalls when a brand-new G550 froze overnight outside on the ramp.

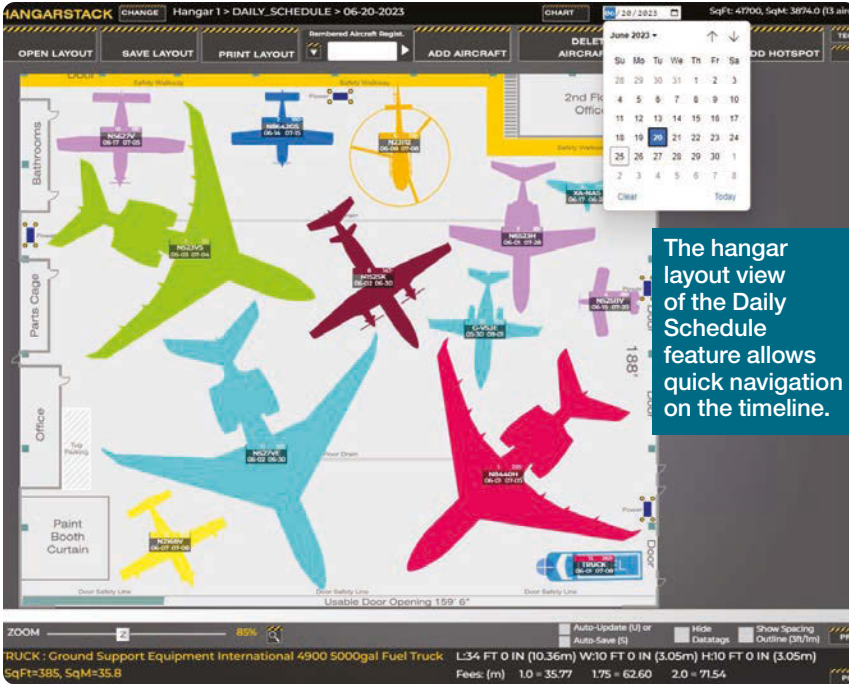
Partin’s line supervisor had told him there wasn’t any room in the hangar, but when Partin walked in the hangar, he saw room in the center of the hangar.

“This was a costly mistake and bad judgement on my line service staff’s part and also most of the reason HangarStack was born,” Partin says. Before leaving work that night, he created a layout using HangarStack to show exactly how the aircraft would fit.

“No more excuses,” he says. “It only takes a few minutes to plan how the aircraft are going to be moved using HangarStack. Moving aircraft without first having a plan increases the risk of damaging aircraft and ruining customer relationships and business credibility. There are hundreds of programs/software in use today that help FBOs run efficiently, however, many operations do not consider ground handling which is surprising because the majority of aircraft damages happen while the aircraft is being towed on the ramp or into a hangar.”

Training

NATA’s Safety 1st Training Center (SFTC) offers an aircraft towing program that covers aircraft towing basics. Also, there



are dedicated course lessons for both tug and tow-bar, and towbarless aircraft towing. For those operations seeking a personal touch for their specific training, NATA offers onsite training. An instructor comes to the NATA member's location and conducts personalized training for their operation.

For SMS training, NATA has Air Transport Safety Manager (ATSM) training offered through a partnership with the Transportation Safety Institute (TSI).

"The instructors at TSI are industry professionals with the credentials and experience the industry needs," Popovich says. "From retired military safety pilots to other safety professionals from the civilian side, the talent and professionalism from TSI course instructors are highly sought after. NATA is proud of the relationship we have built with TSI." **GSW**



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Communication's Critical Function in Catering

Establishing clear lines of communication between airlines and caterers leads to success for both parties.

BY MARIO PIEROBON

While there are many commonalities with mainline ground handling, the catering business has some peculiarities as a ground handling service, including the need to establish communications channels between the airline, the mainline ground handling company and the caterer, as well as the need to respond to the evolving needs of airlines.

Service Features

Inflight catering is an important part of the aviation supply chain and of the airline customer experience.

This is why Western Sydney International Airport (WSI) has recently released a request for proposal (RFP) for an inflight catering facility. In addition to ground handling expertise, WSI is seeking a partner with culinary expertise and the highest levels of food safety standards to deliver to domestic and

international airlines departing from WSI as of 2026.

The peculiarities of catering as a ground handling service compared to mainline ground handling, depend on the individual airline requirements which are defined by their customer proposition and operational requirements, affirms Nerissa Moore, Oceania head of human resources at Gategroupmet, a gategroup member.

"Factors that would be considered are the ability to produce quality and quantity of meals, the ability to deliver the meals as per network needs, as well as quality assurance and safety capabilities and costs," she says.

According to Robin Padgett, divisional senior vice president for catering and retail at dnata, catering operations have many similarities to the ramp operations of ground handling.

"There is the same care and attention, but where we do diverge is on the need

to provide a controlled cool chain process throughout the transportation and loading of aircraft," he says. "The industry has strict rules in place to ensure we always deliver a safe temperature-controlled product to our customers. This



Like other ground handling functions, good communications between caterers and their airline customers are vital.

means providing systems and vehicles capable of keeping products chilled.”

Communications Channels

There are some best practices to establish communications channels between the airline, the mainline ground handling company, and the catering company. Communication is without doubt critical to ensure airlines’ and travelers’ expectations and, in this regard, WSI is seeking an inflight catering partner to contribute to the WSI Airport community and to deliver on this important function for airlines and travelers.

According to Moore, the communication between the ground handling company and the catering company is focused mainly on day of operations items, points out.

“However, between the airline and the catering company there are daily

The needs of airlines have evolved over the years, and, in parallel, inflight catering has continued to be used to deliver a unique service proposition for airline customers and travelers.



DNATA

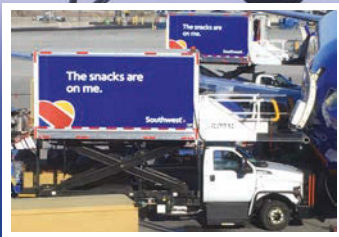
communications from day of operations events through to forward planning of future of menus which is often driven by the season, the review of service level agreements (SLA), and the

investigation of any operational disruptions or incidents,” she affirms.

Like in ground handling, good communications with the airline customers are vital, points out Padgett.

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“In large hub operations, the catering is often embedded into the airlines’ operations centers to support rapid decision making; at smaller stations, instead, there are direct communication channels with the airlines’ station staff or their chosen representatives,” he says.

Evolving Needs

The needs of airlines have evolved over

the years, and, in parallel, inflight catering has continued to be used to deliver a unique service proposition for airline customers and travelers.

In the rapidly changing landscape both parties need to be increasingly more agile to respond, observes Moore.

“Strong and effective communication within the partnership is essential from defining what the product offering is for the airline guests, for example whether

it is free on board or a retail offering, right through from production to the day of operations events,” she says. “The benefit of being part of the largest global aviation caterer is our ability to leverage our experience, service our customers portfolio with our extensive network and offer innovative culinary excellence from our global team chefs. This combined with our full lounge, retail onboard and executive charter portfolio

WSI



Western Sydney International Airport is seeking an inflight catering partner to ensure airlines’ and travelers’ expectations are met through this important function.

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Delivery of Australia's newest airport has passed the halfway mark. WSI is on track to start operations by late 2026. The Australian Government set up a new company, WSA Co, to build and operate the airport.

means we are fully equipped to meet the rapidly evolving needs of the aviation industry."

According to Padgett, the way airlines have evolved over the past few years shows some significant trends.

"Firstly, airlines are developing their on-board service, this is because they want to differentiate themselves from their competitors. This has often been

done by localizing elements of their product," he affirms. "In some cases, there has been a strong push to increase the culinary component of their offering, and this has required investment in high quality, experienced chefs."

Another major trend has been the increasing use of buy-on-board programs, observes Padgett.

"This has allowed for better customer

choice and the opportunity for airlines to drive ancillary revenue. This requires a mastery of disciplines such as product sourcing, ranging, merchandising, data analytics, technology and supply chain management. dnata is one of the rare organizations to have this full suite of skills and we have been developing this part of our business for a number of years," he concludes. **GSW**

ABOUT THE AUTHOR

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Dr. Mario Pierobon provides solutions in the areas of documentation, training and consulting to organizations operating in safety-sensitive industries. He has conducted a doctoral research project investigating aircraft ground handling safety. He may be reached at mariopierobon@az-all-in-one.com.



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GSE Expo Preview

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*The premier event dedicated to
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BY JOSH SMITH

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IAEMA
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A strong voice for the GSE community

The International GSE Expo, presented by Ground Support Worldwide, Airport Business and the International Airport Equipment Manufacturers' Association (IAEMA), returns to Las Vegas.

The 2023 event, which will be held Sept. 26-28 at the Las Vegas Convention Center is a unique networking experience designed to connect airlines, airport personnel, contract service providers, FBOs, ground handlers and members of the military with leading GSE manufacturers and suppliers.

"GSE Expo is the ground support equipment industry's premier event for networking, information exchange, live product demonstrations and face-to-face

access for the latest products, services and technologies, and we're excited to return to Las Vegas this September to build off 2021's successes," said Bill Baumann, group publisher of Endeavor Business Media's Aviation Group.

Specifically focused on providing information and solutions on the latest trends and developments in ground support equipment, the International GSE

Expo attracts attendees from around the world, the 2023 edition of GSE Expo is on pace to attract more than 2,500 global industry professionals and decision makers in attendance, with 250 indoor and outdoor exhibits.

As the International GSE Expo approaches, take a look at a sampling of what will be on display at this year's event.

For updates, additional products and comprehensive International GSE Expo coverage, please visit [AviationPros.com/magazine/49526](https://www.aviationpros.com/magazine/49526)





WILCOX GSE
Baggage Carts
BOOTH 1717

Wilcox GSE's Closed Baggage Carts are built tough, with durability as the top priority. Even if the carts get a few dings and dents, they will keep on hauling without missing a beat. If any parts do need to be replaced due to damage, Wilcox GSE offers fully replaceable parts to minimize downtime.

During the International GSE Expo, Wilcox GSE is planning a grand reveal, highlighting some of the company's existing products as well as launching some new innovations for the industry.



U.S. AIRMOTIVE GSE
Attachable and Molded GSE Cable Assemblies
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U.S. Airmotive GSE cable assemblies for AC and DC applications feature silver-plated copper alloy contacts and military-qualified cable. Connectors include an insulating sleeve around power contacts. All cable assemblies are fabricated to MIL-C-7974C. Qualified source of supply for AS(MS)25019, AS(MS)90328, AS(MS)90347, AN3430 and AN2551 cable assemblies; AS(MS)25486 and AS(MS)25488 connectors. A complete line of ground power cable assemblies and attachable aircraft connectors are available, and U.S. Airmotive GSE supplies custom configurations to meet any requirements.



CONTINENTAL TIRE
RV20 All-Season Tire
BOOTH 526

The successful RV20 tire in the GSE industry now includes a new partner with extra traction and performance in winter/wet conditions. Continental Tire is introducing the Conti RV20 All-Season as the ideal tire for small tow tractors and baggage loaders used in airport operations. This tire is engineered to perform well on various airport surfaces, including ramps that can become slippery when wet. The three-rib tread design with multiple sipes offers maximum ground contact and unparalleled traction.

Continental is a leading supplier of a comprehensive range of ground handling tires for the airport industry. Whether industrial, passenger, MPT or truck tires, Continental continues to be a leader in airport operations for operating costs, reliability and efficiency. The company is dedicated to forging strong partnerships with customers worldwide, providing tailored solutions that optimize their airport operations.



NATIONAL PLASTICS & RUBBER
Aerochock
BOOTH 322

Aerochock are aviation wheel chocks that are 40 percent lighter than comparable chocks. Designed with ease of use in mind, Aerochock can service an entire aircraft fleet, with no compromise on stability.

National Plastics & Rubber will showcase its innovative designs, which ensure aircraft remain secure in all conditions. The company offers designs that no other aircraft chock possesses.



CYNERGIXT INTERNATIONAL, LLC LoadMaster

BOOTH 655

LoadMaster by Cynergixt is a light-weight (less than 35 pounds), modular, scalable, battery-powered conveyor solution designed for aviation. The unit is designed to help operations avoid damage to bags, cargo or aircraft during loading and unloading that can result in in poor on time performance, a negative customer image and costly repairs or replacements.



MS. CARITA Star Value GSE Branding and Support Program

BOOTH 723

Ms. Carita's Star Value GSE Branding and Support Program helps its customers reduce costs and inventory, supports multiple locations and provides long-lasting safety and brand identity solutions that make companies look good. Ms. Carita works with teams on existing products or new, from concept to technical support and all through



production on GSE safety placarding and branding of all equipment and vehicles in a fleet.

Ms. Carita can show its capabilities direct from the source as the company manufactures placards, safety decals, safety reflectors, brand identity signs, fleet graphics, bar code labels, shipping and tracking labels and more.



ELASCO PRODUCTS Heavy-Duty Aircraft Chocks

BOOTH 334

Elasco's Aircraft Chocks are manufactured in the USA from polyurethane. Embedded with the company's exclusive glow technology and reflector strips, the products are designed for high visibility with a 10-year warranty. All of Elasco's cable ramps and wheel/aircraft chocks have the design and durability to withstand the harshest conditions and chemicals for longevity and performance.



Elasco's cable ramps and chocks are designed and manufactured in the USA. The company's ElasGlow technology is the only glow in the dark products used industrywide.

DIXON BAYCO NFPA 407 Refueler Truck Overfill Kits

BOOTH 431

Dixon Bayco offers easy-to-install overfill kits for retrofit of new construction aircraft refueler trucks. The company will also be displaying loading rack equipment, overfill and tank truck components.



SOVAM GSE Range

BOOTH 607

SOVAM manufactures and provides a full range of GSE equipment including airport towing and pushback tractors, sanitary vehicles, scissor lift trucks, passenger stairs, special loaders and maintenance platforms. The company also provides refurbishment and/or electrical retrofits for SOVAM's products on demand.

The company establishes the axes of development adapted to its customer's problems. SOVAM's methodology gives rise to targeted technical products that stand out in the market for their reliability and robustness.



FLITE LINE Phoenix E / Sherpa E

BOOTH 2503

From conventional and towbarless tractors to baggage and cargo equipment, Goldhofer provides safe, dependable products that meet the needs of the ever-changing airport industry. Flite Line offers outstanding service, years of experience and widespread knowledge



of the industry. The company's partnership with Guinault provides the ability to supply ground power units (GPU), air conditioning units (ACU), ACU/GPU combos, and a variety of additional GSE. Its brands Rheinmetall, ABB and UFA offer a portfolio of top-quality products to support nearly all ground procedures at airports throughout the Americas.



SIMPSON AEROSPACE SERVICE
Wi-Fi Access Stands

BOOTH 437

Safety and efficiency are the hallmarks of a new line of Wi-Fi Access Stands custom manufactured by Simpson Aerospace Services. These stands allow line maintenance crews to access Wi-Fi and other top-of-the-crown radar without using tethers. A fully enclosed work cage gives confidence to do the job quickly, and an optional jib crane allows lifting heavy tools and equipment to the top of the plane. Available for narrow- and wide-body aircraft, these stands are safe, highly maneuverable and use little hangar space.

Simpson Aerospace Service will also highlight its general access stands, APU stands, refurbishments and moving, relocation services.



ANDERSON AIRMOTIVE PRODUCTS CO.
Charging Cables Supporting GSE Electrification

BOOTH 430

AAPCO specializes in manufacturing high-quality cable assemblies that are tailored to meet the specific requirements of each customer. AAPCO also designs and produces a wide range of attachable AC and DC connectors that comply with industry standards and regulations and are easy to assemble. AAPCO manufactures receptacles that are designed to interface seamlessly with ground power plugs. These products are engineered to be durable and provide secure and efficient electrical connections, ensuring safe and reliable power transfer. The products can withstand harsh operating conditions while maintaining optimal electrical performance.



AAPCO offers charging connectors and cable assemblies with a variety of connector types and configurations. AAPCO has extensive experience with designing durable products to withstand harsh operating conditions and applies this experience to its charging products. AAPCO can provide tailored solutions to any charging connector, cable assemblies and quick breakaway needs.



ANDERSON AIRMOTIVE
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HARLAN GLOBAL MANUFACTURING
Electric-Powered Conversion Kit

BOOTH 1051

Harlan Global Manufacturing's efficient, cost-saving electric-powered conversion kit allows fleet owners to convert existing vehicles to electric. Compatible with most GSE makes, this solution ensures a fast, reliable transition to enjoy the countless benefits of electrification. Representatives from Harlan will be available to discuss all your ramp operation needs. The company will also be exhibiting electric/hybrid/combustion tow tractors, scissors lifts and a wide range of OEM parts.



AEROSERVICIOS USA INC.
Standard GSE

BOOTH 2733

Aeroservicios USA will exhibit its own GSE brand, including lavatory carts and trucks, potable carts and trucks, Bobtail trucks and aluminum stairs, all of which are manufactured in-house.



AMAI JANA INC.
Cargo Door Sill Protector

BOOTH 731

The Cargo Door Sill Protector from AMAI Jana Inc. reduces/eliminates costly damage from belt loader contact. Lightweight and quickly installed by a ground agent, the Cargo Door Sill Protector offers photoluminescence for visibility during night operations and protects the entire door sill area.

AMAI Jana Inc. is also pleased to announce its partnership with Northern Air Cargo, an American cargo airline based in Anchorage, Alaska, that operates Boeing 737 and 767 freighters. The airline is implementing Cargo Door Sill Protectors, and upper deck main Cargo Door Frame Guards within its operation for use on Boeing 737 freighters.



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How Electric Deicers Contribute to Ground Handling Sustainability

Vestergaard's Elephant e-Mini MY Lite offers fully electric aircraft deicing at regional airports.

BY REBECCA KANABLE

The smallest electric aircraft deicer from Vestergaard Company aims to help small to medium-sized airports reach big net-zero emissions goals. It also fits with the company's goal to deliver carbon-neutral ground handling by 2030.

The latest version of the Elephant e-Mini MY Lite, introduced in 2022, is fully electric and uses electricity to heat the deicing fluid. The unit comes with an on-board charger for the chassis and plug-in for the heater. The original Elephant e-Mini MY Lite deicer, introduced in 2021, uses a diesel heater/burner

for faster heating of deicing fluid. Both versions feature Vestergaard's electric 12 t chassis. Both are available to customers today.

"The idea was to make a smaller version of the MY Lite, which has been a huge success," says Lars Barsøe, vice president of sales and marketing at Vestergaard. "The Mini MY Lite also replaced the Elephant SIGMA that we had in our program for many years."

The MY Lite is a 7,600-liter version with two tanks designed for operations using both premix Type I deicing fluid and pure Type II/IV anti-icing fluid.

The e-Mini MY Lite is a 4,000-liter version with two tanks (3,000-liter premix Type I, 1,000-liter Type II/IV) and can supplement existing operations or serve as the primary deicer aircraft up to and including the Boeing 757/767.

Major advantages of the e-Mini MY Lite touted by Vestergaard officials include sustainability, ease of operation and access for the operator, practically no noise, low maintenance, off-the-shelf availability and lower costs.

Barsøe also points out the truck cabin is all glass, so the driver has an excellent view of the surroundings, which



The fully electrical e-Mini MY Lite marks another step of the journey for reducing environmental footprint by significantly reducing greenhouse gas emissions.

VESTERGAARD COMPANY



The e-Mini MY Lite delivered to Clermont-Ferrand Auvergne Airport has a 40 kwh battery and can handle 8-12 deicings depending on rate of contamination/fluid needs.

makes the unit much safer around aircraft and other service vehicles on the apron.

Given the interest that e-Mini MY Lite has received, Barsøe says Vestergaard no longer offers a Mini My Lite diesel-powered vehicle, which debuted in 2020.

Today several airports in Turkey and the United States are using the fully electric unit. The first airport to have the fully electric e-Mini MY Lite was Clermont-Ferrand Auvergne Airport in France, managed by the VINCI Airports

group. The eGSE delivered in November 2022 fits Auvergne's sustainability strategy of reducing carbon emissions to reach net zero emissions by 2050.

With a 40 kwh lithium-ion battery, the vehicle can handle 8-12 deicings – depending on rate of contamination/fluid needs – and can drive 40-75 km on a single charge. If a 40 kwh battery isn't enough for a ground service provider, a 62 kwh unit is also available.

"We estimate that you can deice 10-15 aircraft, but it depends on the kind of weather and also whether you

have enough fluid in the tank for so many aircraft," Barsøe says. "With a 62 kwh battery, you should be able to travel 50-65 km while the heat is on, etc."

The Vestergaard e-chassis is based on standard industrial, electronic components. Charging is available through a 6.6 kwh onboard charger. To charge a 40 kwh battery from 10 to 80 percent takes about 5-6 hours. The 62 kwh battery takes about 7-8 hours.

The e-Mini MY Lite is a premix deicer, which means it uses premixed deicing fluid and neat anti-icing fluid. Two people are needed to operate the unit.

Options available for the e-Mini MY Lite include a ground gun (with a maximum hose length of 15 meters), access to tanks via manhole covers and steps/ladder, spare wheel, basket side cover to protect the operator from harsh weather, an amber flashing beacon, reverse camera, flow sensor, basket sensor, side level and more.

Vestergaard announced previously that by 2025, 75 percent of its vehicles will be fully electric or hybrid electric.

Later in 2023 the company will launch its new fully electric MY Lite – on a Vestergaard 20 t electrical chassis, according to Barsøe. The first initial units will run a full operational test during the 2023-24 winter season before becoming available to the market.

"Very shortly thereafter the fully electric MY Lite, we will bring our fully electric e-BETA on a 28 t Vestergaard electrical chassis," he says, noting presently, all functions except the fluid heating are run electrically.

The Elephant BETA can deice aircraft up to the size of the Airbus 380. It holds a total of 8,000 liters and is a full-proportional mixing truck that can be operated by one person. A fully charged battery allows deicing of 10-15 aircraft (2-3 hours of operation) without running the truck's chassis engine. **GSW**



The Elephant e-Mini MY Lite is a simplified, off-the-shelf version of the traditional Elephant MY introduced especially for servicing smaller to medium-sized aircraft.

Product Hangar

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The Wing Armor anti-icing system tracks the amount of fluid dispensed to prevent over-spray. Two TURBO XL digital meters on the unit accurately measure the anti-icing fluid sprayed from each gun. The pressurized system applies fluid with dual application guns with dual meters, ensuring even application on both wings and allowing crews to spray both wings simultaneously. The system offers a low profile that enables it to fit underneath the wings of most business jets. The unit, which weighs less than 1,000 pounds when full of fluid, also features a tow bar so that it can be hooked up to a tug and moved around.

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DEICING NOZZLES U.S. AIRMOTIVE GSE

U.S. Airmotive GSE is proud to be a distributor of deicing nozzles manufactured by Task Force Tips. A single nozzle can be used in two steps to both deice and anti-ice aircraft. The operator simply selects the desired fluid delivery system pressure, and the nozzle responds automatically. TFF backs its nozzles with a five-year warranty.

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JBT CORPORATION

JBT's Tempest-i ProMix with AirFirst is now available with Type I/IV or Type I/II Prop-Mix. Pure Type I fluid is gently preheated to 160°F by fluid heater, and water is preheated to 155°F by Plate Heat Exchanger. The preheat process takes approximately 55-65 minutes for 1,100 gallons of water and 700 gallons of Pure deicing fluid. EZ-Heat technology automatically turns the heater on when spraying is demanded and quickly heats the Pure to a maximum spraying temperature of 180°F. Fluid mixing is done directly at the fluid pumps. Fluid purge is automatic if the engine is turned off and freeze protection is not plugged in. Purge only uses 4 gallons of pure fluid. The Freeze Protection system is designed for 240V 30 Amp power supply. When plugged in, a temperature sensor closely monitors water temperature and slowly circulates the water preventing freezing. Battery charging and block heater are also integrated into this system.



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PORTABLE VISCOMETER HYDRAMOTION LTD.

It is easy to measure the viscosity of deicing fluid with the Viscolite portable viscometer from Hydramotion Ltd. — simply dip the probe into fluid and see the viscosity reading instantly. Wipe the sensor clean and it is ready for re-use. The viscometer is factory-calibrated and does not need recalibration.

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E4000 SERIES HOSE REELS FOR AIRCRAFT DEICING
HANNAY REELS INC.

Hannay's E4000 Series reels are designed to withstand frigid temperatures as low as -60°F, making them a perfect solution for deicing aircraft. This series is constructed of high-quality steel for superior protection against all outdoor elements. For unsurpassed fit and function, the aviation reels are individually designed and built to meet a customer's specific requirements, never retrofitted to the job.

AviationPros.com/21143344



GLYCOL CONCENTRATOR AND STARCEVIC DISTILLATION SYSTEM
INLAND TECHNOLOGIES INTERNATIONAL LTD.

The collection and recycling of spent aircraft deicing fluid is Inland Technologies' core business, and the company offers a suite of in-house designed equipment such as the Glycol Concentrator and the Starcevic Distillation System. Inland Technologies also owns and operates a wide spectrum of filtration and reverse osmosis systems to assist in supporting airport environmental compliance.

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GLYCOL RECOVERY/AIRCRAFT SWEEPERS
ELGIN SWEEPER COMPANY

Elgin Sweeper Company provides world-class environmental technologies to meet essential airport applications. Product applications include runway sweeping, parking lot sweeping and glycol recovery.

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POLAR GUARD ADVANCE
CRYOTECH DEICING TECHNOLOGY

Cryotech Polar Guard Advance is an AMS 1428 certified, military approved, propylene glycol based Type IV aircraft deicing/anti-icing fluid. Manufactured in the United States, Polar Guard Advance has the lowest LOU in the industry at -22.9 F (-30.5 C), with long holdover times in all conditions, and low viscosity for easier handling. Cryotech's technical team is experienced in transitions and available to assist with any additional product questions. Cryotech is an ISO 9001:2008 and 14001:2004 certified company.

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**REFRACTOMETER
MISCO REFRACTOMETER**

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**OPEN BASKET AIRCRAFT
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KBY SOFTWARE LLC

The KBY Software open basket aircraft deicing mixed reality training simulator provides a 24/7 environment for initial entry and recurring training in dual operator open basket aircraft deicing. The system utilizes a VR headset with pass through video stereo camera system to support student interaction with physical controls.

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**WIRED & WIRELESS HEADSET COMMUNICATION SYSTEMS
FOR DEICING OPERATIONS**
FLIGHTCOM CORPORATION

Wireless headset communication system for deicing operations keeps the driver and sprayer in constant two-way voice communication like a phone call. The system offers superior audio quality, and has been proven in wide deployment.



AviationPros.com/12377769

MULTI-SOLUTION GATE
MSG PRODUCTION AS

The Multi-Solution Gate (RS500) dual system offers complete deicing and washing functionality, while special high-resolution cameras will scan the condition of the entire airframe.



The RS500 is a complete washing facility. The systems offer time and cost savings and are the greener choice where up to 95 percent of spent fluids used are collected and recycled in a closed environment.

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the perfect blend of heat and fluid to deicing operations. Designed as a feature of the Safeaero 220 one-man deicer, Intellimix delivers precise mixing at nozzle, eliminating the need to flush fluids, resulting in lower operational cost and reduced environmental impact.

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Advertising Index

AVIRAMP	27
Charlatte	2
Chase Defense Partners, Inc.....	41
David Clark Company	5
Engine Distributors, Inc.....	37
Fortbrand Services LLC	41
GLOBAL GROUND SUPPORT	25, 41
Goldhofer Aktiengesellschaft.....	23
Hydraulics International, Inc.	38
JBT GSE.....	44
MULAG Fahrzeugwerk GmbH.....	36
NBAA - (BACE) National Business Aviation Association.....	43
Noregon Systems.....	7
Par-Kan Company	40
Stinar Corporation	Insert
Timsan	21
TREPEL Airport Equipment GmbH.....	26
Wilcox Ground Services.....	39

TSU MONITOR TANKSCAN/ATEK ACCESS TECHNOLOGIES

The TankScan TSU Monitor is a wireless all-in-one cellular-enabled device that is placed on top of the tank or container to provide level measurements. The device is battery powered so no outlet is required. Using cellular technologies, the TSU Monitoring System can be installed in locations where network infrastructure may not be available. The monitor has a durable NEMA 4X enclosure, Class I Division 2 rating and long battery life, making this solution ideal for use in a broad range of tank applications. The monitor collects data regarding the fluid level in the airline's deicing tanks and sends it to the ATEK Intelligence Platform (AIP) web-based monitoring application. The AIP sends text message or email alerts to the appropriate airline employees when inventory drops below a pre-determined level, allowing them to avoid a costly run out. The AIP also allows ATEK Access Technologies to remotely monitor the health of the wireless tank monitors in the field, ensuring that its TankScan monitors are always online and operating at the best possible level.



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Spotlight on: Brian Wemple

BY JOSH SMITH

Ground Support Worldwide:

What attracted you to a career in the ground support industry?

Brian Wemple: After beginning to work with ground operations and GSE planning in 2006, I realized very quickly the connection that operators and mechanics have with the equipment they are responsible for. It's an industry where manufacturers, users and maintenance personnel are passionate about their resources.

GSW: What has kept you engaged in the industry?

BW: Whether it is working with other ground handlers, airports or GSE manufacturers, it always feels like working with family. We all absolutely appreciate the value of working together for the greater good of the industry.

GSW: What's the best advice you've been given while working in this field?

BW: Take risks... and focus on success. Establish a small number of really important goals and create forward-looking measures to ensure these really important goals will be achieved. Measure results and establish accountability. Make sure people have what they need to be successful.

GSW: How have you seen the ground support industry change the most during your career?

BW: I've often joked the ground support industry has been stuck in the "SOS" (Same Old Stuff) program for years. In the past few years, I've seen many companies focus on design and engineering improvements and bring to the market innovative products and solutions. This is good to see; I hope the industry embraces the changes so that ground handlers can implement safer and more efficient services.

GSW: What's the next big thing coming to the ground support industry?

BW: The GSE industry needs to further develop new and innovative solutions that help handlers generate higher levels of safety and efficiency. Handlers that successfully implement improved safety and efficiency tools will ultimately find long-term success. I see automation, robotics and AI tools being key to generating future success.

GSW: What type of an impact will it make?

BW: Any changes within airline environments take significant amounts of coordination between airlines, handlers, airports, regulatory agencies and equipment manufacturers. Having leaders that are willing to step up to the plate and work collaboratively with stakeholders will drive significant impact to the industry – how equipment design matures, how we train operators and ultimately improved solutions we can provide to airlines and airports.

GSW: What would you say to encourage someone to join the ground support industry?

BW: There are significant amounts of opportunity to drive change within the industry – especially with technologies that are either emerging or now available. For people that want to come in and help chart the course – it's a great time to do this!

GSW: Any additional comments?

BW: One of my most significant inspirations in the GSE world was my teammate that retired last year, Fred Maslow. From his straightforward approach on items, to his desire to push the boundaries, Fred was never a stranger to an opportunity. His passions



Job Title: Director, Planning and Support

Company: Piedmont Airlines

Location: Charlotte, NC

Years of experience in ground support industry: 17 years

Years with current company: 24 years

Industry committees / associations / working groups served on:

Previously participated in various panels and industry discussions regarding eGSE benefits, green project grant funding and airport support. Most recently joined SAE AGE3 as a liaison member.

were partnering with others to find solutions to current problems, and considering new options that would make our business better. As many had experienced, he certainly also made a number of friends along the way. Even though he now spends his time traveling, lake adventures with the grandkids and, of course, enjoying the finest bottled red lubricant, his spirit will live long in our company. Thank you Fred from all of us whom you've inspired, supported, and made laugh along the way. **GSW**

This interview was edited for length. To read the entire article, please visit www.AviationPros.com/53063087



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