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OCTOBER 2017

Ground Support

WORLDWIDE
EQUIPMENT – SERVICES – HANDLING

A Breath of

Fresh Air

GROUND SERVICE PROVIDERS

**Find the Best Financial
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INTERNATIONAL

**How Australia's Population
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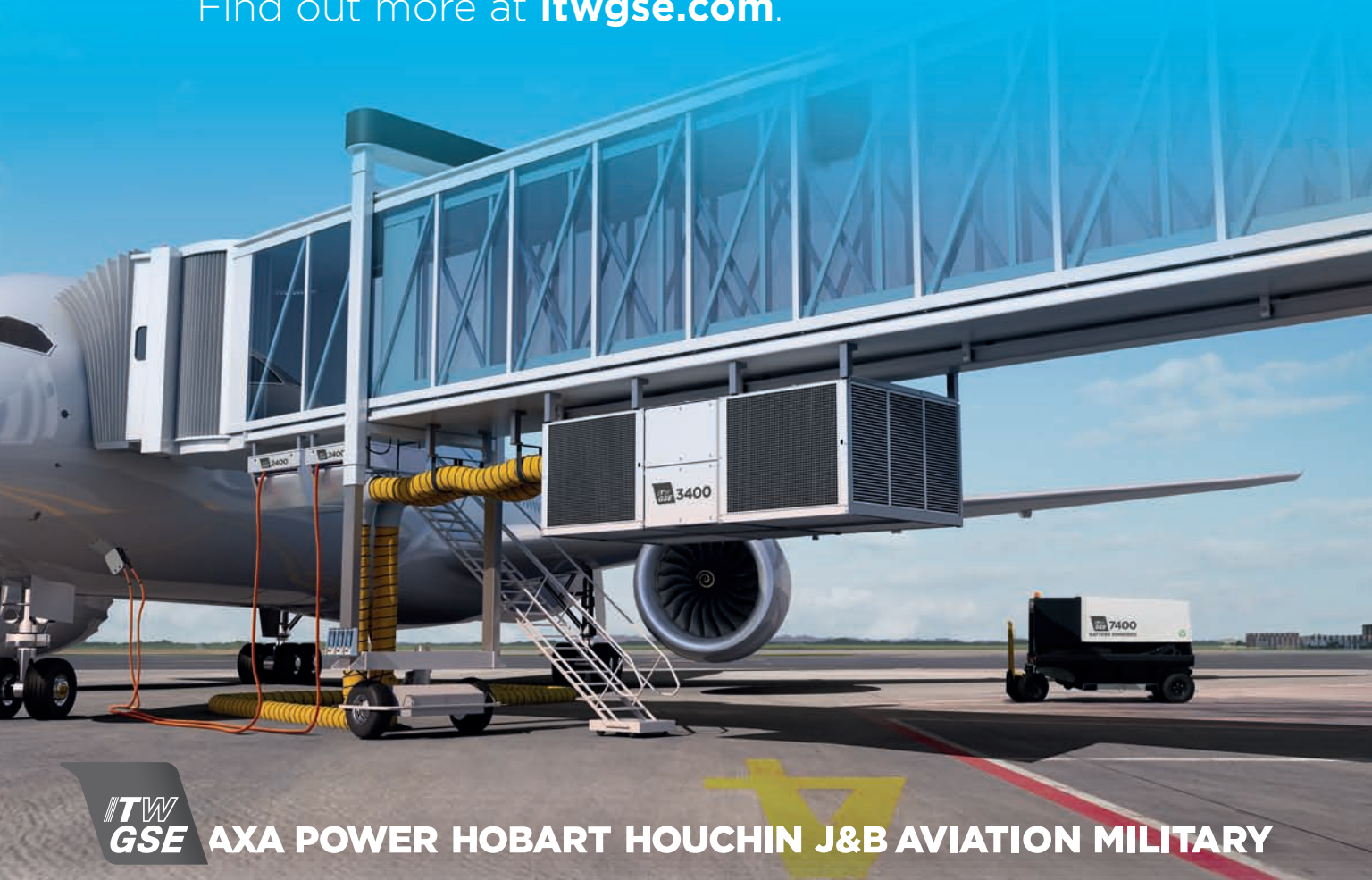
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Exciting New Things Coming in 2018

We are gearing up to bring you a number of new outlets to receive top-notch ground support information.

know it is only October, but the team at *Ground Support Worldwide* is already thinking about 2018.

We have some exciting new things that we are doing as a magazine, and we hope you have exciting plans of your own.

In 2018, we are launching two new eNewsletters to complement our current newsletter, which is delivered directly to your inbox on Mondays, Tuesday and Thursdays and brings you all the aviation news that is happening around the world.

On Wednesdays, we will be sending out the Product and Equipment Weekly eNewsletter that will provide a different product focus every month. Then, on Fridays, we will be deploying the Technology Report eNewsletter. With the digital ramp becoming more and more of a hot topic, we want to make sure we are giving you the appropriate IT/Data-related information needed to do your job at peak efficiency.

In addition to the eNewsletters, we are also featuring an Industry Expert Column in each issue of the magazine that will cover topics on Ground Handling, Ground Support Equipment, Data/IT and Business/General Aviation.

Ground Support Worldwide is the only magazine that covers all aspects and all segments of the ground support industry, and we strive to continue to grow and change as the industry does.

As always, thank you for reading.

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► Upcoming Events

November 6-8

**ACC Annual Conference
and Exposition**
San Diego, CA

November 14-16

**IATA Alternative Fuel
Symposium**
Vancouver, Canada

November 15-16

IATA Aviation Data Symposium
Miami, FL

February 6-9

**NBAA Schedulers and
Dispatchers Conference**
Long Beach, CA

February 18-21

AirCargo 2018
Austin, TX

March 6-8

**Fuel Handling Training
Symposium**
Los Angeles, CA

March 13-15

IATA World Cargo Symposium
Dallas, TX

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AND CASINO
LAS VEGAS, NEVADA**

BUSINESS BUZZ

► TOP NEWS

Airlines and Airports to Invest \$33 Billion in IT This Year

Airlines and airports are estimated to spend nearly \$33 billion on IT this year, according to the *SITA 2017 Air Transport IT Trends Insights*. And they are focusing their technology investments on similar priorities. Top of the agenda for CIOs at both airlines and airports, are investments in cyber security and cloud services. In addition, they are prioritizing investments in passenger self-service.



SITA's research of the world's airlines and airports shows that IT spend remains strong. Airlines' spend as a percentage of revenue will rise to an estimated 3.3 percent or \$24.3 billion in 2017. For airports, the rise is to an expected 5.05 percent for this year or \$8.43 billion. Looking ahead to 2018 more than 70 percent of airlines and 88 percent of airports are expecting IT spend to increase or remain at the same levels as today.

As IT spend increases, both airlines and airports agree that the number one priority for their investments is cyber security. Nearly all of them – 95 percent of airlines and 96 percent of airports – plan to invest in major programs or R&D on cyber security initiatives over the next three years. This shows alignment across the industry on the importance of investing in this area.

"The air transport industry is going through digital transformation and focusing its attention on protecting the business and passengers; making it more efficient; and improving the passenger experience. Cyber-attacks are a very real threat in the highly interwoven air transport industry so building solid defenses is essential. Cloud services provide important efficiencies which play a key role in keeping costs down. Investments in self-service improve passenger satisfaction as they welcome the independence and efficiencies it delivers," said Ilya Gutlin, president, air travel solutions, SITA.

WFS Fueling Achieves ISO 9001:2015 Quality Certification in Hong Kong

WFS Fueling in Hong Kong, which provides into-plane fueling operations for more than 60 airlines, has been awarded ISO 9001:2015 certification, the International Organization for Standardization's (ISO) flagship quality management systems standard.



ISO 9001 helps organizations demonstrate to customers that they can offer products and services of consistently good quality. It also acts as a tool to streamline a company's processes to increase efficiency. WFS Fueling achieved its certification following an audit covering management priorities and demonstration of leadership and commitment; commercial contract process and customer focus; quality policy; management system requirements; competence, communication and control of documentation; safety, environmental documentation and conformance; statutory and regulatory requirements; and risk management.

"As a growing company committed to the highest global standards for security, safety and quality, this certification is very important because it confirms to our airline customers that we have the quality standards and processes in place to meet their own high expectations," said James Carey, WFS' regional managing director, Hong Kong and Singapore.

ExecuJet's Zürich FBO Gains IS-BAH Stage II Accreditation

ExecuJet, part of the Luxaviation Group, has seen its Zürich FBO gain the International Standard for Business Aircraft Handling (IS-BAH) Stage II accreditation, making it the first FBO facility in Switzerland to do so.

"Throughout the Luxaviation Group we operate a universal standard of customer service, safety and quality that is outstanding. Four of the 25 FBOs in our network are IS-BAH accredited, including Berlin, Brussels, Lanseria and Zürich, showcasing the quality of our support services and our com-

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mitment to using the most comprehensive assessments available,” said Ettore Poggi, group FBO director, Luxaviation Group. “We are always looking to improve the service we provide our customers and we are looking forward to achieving Stage II accreditation at more of our facilities in due course.”

“We are extremely proud to have achieved IS-BAH Stage II accreditation, making us one of only a handful of FBOs in Europe to do so. This accreditation is recognition and reward for all the hard work that has been put into the facility since its opening in 2003 and underpins the importance we place on safety and regulatory standards,” said Basil Gamper, manager, ExecuJet Zürich FBO.

Chicago Set to Raise Airport Workers' Pay, Clear Path to a Union

The Chicago City Council approved an ordinance that boosts the wages of O'Hare and Midway airport workers and clear the path for them to unionize.

Mayor Rahm Emanuel introduced the ordinance in late July after a two-year campaign by the Service Employees International Union to hold the city accountable for the pay and working conditions of airline subcontractors, part of a national push by the union as it seeks to add airport workers to its rolls.

Chicago's ordinance makes labor standards part of the requirements for obtaining a license to provide services at O'Hare and Midway airports. It covers nearly 8,000 workers employed by contractors hired by the airlines, including baggage handlers, cabin cleaners, janitors, security officers, ticket-takers, de-icers and wheelchair attendants. The ordinance states licensed contractors must pay workers at least \$13.45 an hour starting next July 1, and raise the wage in proportion to the consumer price index every subsequent year. That gives them a leg up over Chicago's minimum wage, which recently was raised to \$11 an hour as the city gradually steps toward \$13 by 2019.

Unilode Expands its Global ULD Repair Network

Unilode Aviation Solutions, a global provider of outsourced Unit Load Device (ULD) management and repair solutions,

 expanded its global repair network by

opening a new FAA Part 145 certified repair center at Cincinnati/Northern Kentucky (CVG) airport to primarily support and expand Unilode's partnership with DHL.

Unilode also plans to open a repair center in São Paulo (GRU), Brazil, within the next couple of months to primarily serve LATAM. Additionally, Unilode plans to open a repair center in Jeddah, Saudi Arabia, before the end of this year to focus on supporting Saudia Airlines.

“The opening of our repair facility at CVG is an excellent example to demonstrate the value of being a strategic partner for our customers as we have set up this facility on specific request of our long-established partner DHL who needed support for ULD repair services at their hub in Cincinnati. Operating our own global repair and maintenance network at key airports helps our customers to reduce repair turnaround times as well as carbon footprint and fuel costs, and with the expansion of our repair network in the Americas and in the Middle East we are able to serve our current and future ULD management and ULD and galley cart repair customers even better,” said Benoît Dumont, Unilode CEO.

Air India's Ground Handling Business Draws Interest

Private Turkish firm Celebi Holding and Mumbai-headquartered Livewel Aviation have expressed interest in buying the ground handling arm of Air India.

Celebi, which provides ground handling services at international airports in Mumbai and Delhi, became the first foreign entity to show interest in the stake sale of Air India.



Last month, aviation services provider Bird Group too had shown interest in acquiring Air India's Air Transport Services Limited (ATATSL).

SATS Introduces Augmented Reality Technology

SATS Ltd. announced the introduction of augmented reality (AR) smart glasses in its ramp handling operations.

The smart glass will provide SATS' ramp handling staff with critical information such as loading instructions in real-time. Using the wearable AR technology, operators will be able to scan visual markers found on baggage and cargo containers that provide details such as weight, unit number, loading sequence and the allocated position within the aircraft. This hands-free process improves safety, and increases the accuracy and efficiency of baggage and cargo loading.

The smart glass comprises a monocular display and onboard processor with video recording features and wireless connectivity capabilities. Video streaming enhances the visibility of ramp handling operations across the airport by providing the ramp smart control center a real-time view of on-ground processes. With the see-what-I-see feature, flight controllers within the control centre can better supervise and provide instructions to operators on how to handle cargo with special handling requirements.

In addition, they would also have enhanced oversight of the loading process, which will enable greater flexibility in manpower management.

This technological initiative increases productivity and can potentially shorten loading time by as much as 15 minutes. This would create competitive advantages for airline customers who could reduce waiting times for passengers and shorten transit times for airfreight shippers. The project was developed in partnership with the Civil Aviation Authority of Singapore, which co-funded the development cost.



ACT Completes UL Certification of 380VAC and 80V Quantum Chargers

Advanced Charging Technologies Inc. (ACT) completed the UL/cUL certification for the 380VAC and 80V Quantum chargers. The 80V Quantum charger also lays the groundwork for ACT to enter the airport ground support equipment (GSE) market.

The Quantum charger, a smart battery charger, was designed with WiFi connectivity to allow for seamless cloud integration. ACT's cloud application with simplified dashboard allows end users to centrally manage their charger assets with 24/7 access from their desktop, mobile phone or tablet enabling real-time smart warehouse management. The Quantum charger also communicates with the ACT BATView battery monitor to capture battery utilization and performance data for even more cloud-based, real-time optimization of forklift charger and battery fleet efficiency.

"The 2-way communication allows remote firmware and software updates for continuous improvements as well as remote commands to be sent to the Quantum charger to solve problems before they happen", said Dr. Nasser Kutkut, chief technology officer of ACT.

Budapest Airport Handles Record Cargo Volumes

Budapest Airport processed a record 72,161 tons of cargo from January to July 2017, up 19.6 percent on the same period last year.

The Hungarian capital recorded 49,420 tons of air cargo, up 16.7 percent, and 22,741 tons of trucked cargo, up 26.5 percent compared to last year. July figures grew 16 percent to 10,729 tons, including 7,432 tons of airfreight, up 15.5 percent on July 2016, and 3,297 tons of trucked freight, up 17.2 percent.

The Central European hub grew thanks to new cargo flows from long-haul passenger routes, from operators including Emirates and Air China,

in addition to volume increase from freighter partners, including Qatar Airways Cargo, Cargolux, and Turkish Cargo. Budapest Airport is transforming its cargo facilities, as part of the BUD:2020 Development Program,

which will include two state-of-the-art express facilities, and a dedicated freight center called Cargo City.



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Air Malta Ground Handlers to Form Separate Company

A hiving agreement for Air Malta's ground handlers has been reached with GWU, minister for tourism Konrad Mizzi announced.

The agreement will see ground handlers, such as passenger, cargo, and luggage handlers, carved out of Air Malta to form a separate company wholly owned by the government of Malta. This will mean that 450 to 600 employees will move for Air Malta to another company, Mizzi revealed. He went on to say that the government is engaging with other unions, and it is their objective to have collective agreements take effect in January.

► PEOPLE

Lewis Joins SkyMark Refuelers



Steven Paul, President of SkyMark Refuelers, is pleased to announce the appointment of Richard Lewis as the company's vice president of international sales.

Many may know him as a respected industry veteran. He has been in the industry covering the Middle East, Asia-Pacific, and Africa for the last 10 years, building strong trusted relationships in our very special world of aircraft refueling.

SkyMark Refuelers is excited to have him on board, and he is certainly looking forward to reaching out to industry friends and making some new ones.

Duda, Moore Join Tronair



Tronair recently announced two new hires.

Chris Duda joins the Tronair team as Vice President of Global Sales and Marketing, reporting to CEO Harley Kaplan. He brings more than 20 years of proven global commercial leadership and

experience and a proven track record of successfully leading commercial organizations, including Fortune 500 and privately held.

John Moore joins the Tronair team as Vice President of Commercial Sales, reporting to Chris Duda. He is an industry sales leader with more than 30 years of extensive GSE experience. Prior to joining the Tronair group Moore served as VP of Sales and Marketing for air-a-plane Corporation, Trilectron Industries, ITW Hobart, WFS/OXFORD and Harlan Global Manufacturing. He has a proven sales record with widespread experience in domestic and international sales.



TIACA Expands Global Reach with New Board Members from Africa and Asia

Two new board members, representing the ground handling and cargo carrier sectors, have been appointed to the TIACA Board of Directors.

Ramesh Mamidala, CEO of Celebi Delhi Cargo Terminal Management Pvt, and Sanjeev Gadhia, founder and CEO of Astral Aviation Ltd and Vice Chairman of the African Airlines Association (AFRAA) Cargo Task Force, received the appointments.

"I am delighted to welcome two very great additions to the Board; Sanjeev and Ramesh each bring valuable insight and rich experience of managing cargo businesses in diverse areas," said Sanjiv Edward, Chairman TIACA.

"The Indian air cargo market is experiencing one of the fastest growth rates in the world with significant potential,



expected to double from the current rate in near future," said Mamidala. "I am so honored and feel privileged to serve on the TIACA Board, which I believe will give me an opportunity to integrate the Indian air freight industry with the global market through TIACA."

"I am extremely honored and privileged to be appointed, as the only member from Africa, to the Board of TIACA, which is an association that I have been a member of for the past 17 years," said Gadhia. "My appointment will enable AFRAA members and especially the Cargo Task Force, to embrace the opportunities that TIACA will bring aboard in areas such as networking, education and training, industry relations, and participation in TIACA cargo events as a group."

A4A Names Vaughn Jennings Vice President, Communications

Airlines for America (A4A) announced the promotion of Vaughn Jennings to serve as the new vice president, communications.

Since joining A4A in November 2012 as managing director for government and regulatory communications, Jennings has played an integral role in successfully developing, driving and advancing the industry's public and media relations priorities on a wide range of issues important to A4A's member airlines. As vice president, Jennings will oversee the department's advocacy campaigns and its two managing directors, with a focus on further expanding A4A's strategic communications initiatives and earned media outreach.

"Vaughn is an expert communicator, who completely understands the intricacies of the airline industry and Capitol Hill," said Todd Burke, A4A's senior vice president, communications. "He is a vital part of our current communications department and by stepping into this new role, his talent and leadership skills will only continue to grow, to the benefit of our A4A team, our member airlines and the traveling public."

► NEW DEALS

Carolina GSE Signs Distribution Agreement with Unitron LP

Unitron LP has entered into an agreement with Carolina GSE, Inc. as an authorized stocking distributor for its electrical aircraft ground power products, including mobile and towable 400 Hz ground power units (GPUs).



CAROLINA GSE
Ground Service Equipment



Unitron
POWER SYSTEMS

“Carolina GSE continues its dedication to provide the aviation industry with quality GSE and delivering first-class service to our customers. This stocking distributor agreement allows Carolina GSE to

expand its industry-leading GSE products to customers for a complete hangar setup,” said Mike Blout, President. “Unitron continues to be an innovative ground power manufacturer, and Carolina GSE is honored to be a part of the Unitron team.”

Carolina GSE will expand, market and support Unitron’s line of ground power products that operate on an electrical power source and provide both single and dual outputs for 400 Hz ranging from 20 kVA up to 180 kVA. Along with 400 Hz AC only units, Unitron manufactures combination GPUs with both 400 Hz and 28.5 VDC to expand the capability of serviceable aircraft with one complete unit.

LSG Group Extends Contract With Alaska Airlines

The LSG Group has extended its system-wide contract with Alaska Airlines

(AS) for another three years. The agreement covers 40 airports in the United States and Mexico with an average of 3,100 flights per week.

Alaska Airlines is a longstanding customer of the LSG Group that has grown significantly over the years. Since acquiring Virgin America (VX) in 2016, it has become the fifth-largest airline in the U.S. Today, the LSG Group, whose catering activities are marketed under the “LSG Sky Chefs,” brand name manages the product design, equipment warehousing and distribution for both Alaska Airlines and Virgin America. The company also provides all of the airlines’ shelf-stable boxes and the vast majority of their catering services.

“We have successfully positioned ourselves as an innovative business partner and are supporting AS and VX as they






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move forward with redesigning their airline by combining the two carriers," said Dale Messling, LSG Group key account manager AS. "We look forward to further opportunities by offering our future-oriented concepts, which include our Retail inMotion solutions, continued support through SPIRIANT and our Oakfield Farms box solutions."

BEUMER Group Awarded Contract for EBS at Arlanda Airport

BEUMER Group has been awarded the contract by airport owners, Swedavia, to design, supply and install a new CrisStore dynamic Early Baggage Storage (EBS) system at Arlanda Airport, Sweden. The CrisStore will be integrated in the airport's Terminal 5 while maintaining live operation of the baggage handling system.

The contract is part of Arlanda Airport's plan to increase capacity from 21 million passengers per year to 36 million passengers per year by 2050.



"Arlanda has ambitious plans to become the preferred Scandinavian hub," explains Bert Rasmusson, Swedavia BHS Project manager of the Arlanda development project. "One of the airport's key criteria, therefore, was to implement state-of-the-art technology in the new EBS. This will ensure maximum availability now and support further expansion by providing the easy scalability and compatibility with future systems."

The CrisStore rack-based storage

system will provide more than 1,500 bag positions and enable Arlanda to improve the capacity, accuracy and security of the EBS system. The combination of the updated controls and CrisStore's flexibility will enable the EBS to support the handling of over-size totes for out-of-gauge baggage. It will also allow Arlanda to implement future plans to batch-build bags for speed-loading onto a ULD or trolleys.



Menzies Aviation Wins easyJet Contract in Nice

Menzies Aviation's Southern Europe team has successfully won the contract for easyJet's full ground handling operations

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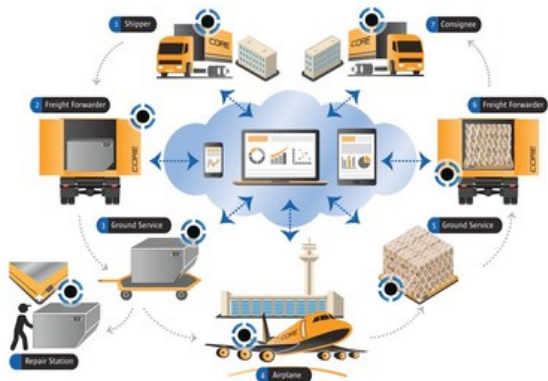
for 12,000 turns per annum at Nice Côte d'Azur International Airport.

With more than 250 aircraft flying more than 860 routes in almost 40 countries every day, easyJet is the fourth largest airline in Europe, and the 10th largest in the world. With the addition of Nice, Menzies Aviation handles easyJet operations at 15 stations in southern Europe.

"easyJet is key to securing long-term continuity and development in France and a key component in our southern Europe growth strategy. Start-up plans are already underway to ensure that we hit the ground running from day one," said Juanlo Vidal, VP Southern Europe.

CORE Technologies and ACL Airshop Announce Strategic Alliance

CORE Transport Technologies, Inc. of New Zealand and ACL Airshop LLC of the US have joined forces to bring Bluetooth-enabled logistics technology to the global air cargo industry. The companies will jointly provide automated tracking of unit load devices (ULD equipment).



CORE Transport Technologies is a software developer with offices in New Zealand, Hong Kong and Orlando, FL. ACL Airshop, with main offices in South Carolina and Amsterdam, is a provider of custom ULD solutions to more than 200 air carriers and cargo clients, with services, repairs and leasing operations at 40 of the world's top-50 air cargo hub airports.

Predictive analytics and Big Data are just part of the new efficiencies these innovations can bring to air cargo carriers, according to the two companies. They assert that airlines will also be able to track the actual cargo loads by the container and pallet, that the tracking system will yield real-time "dot on the map" monitoring and status reports, and will reduce both the loss and/or the overstocking of pallets and other mission-essential cargo equipment. This is coupled as a significant technical enhancement to ACL's existing ULD Control and bar-coding systems used by some of its customers.

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NATA HOLDS FIRST GROUND HANDLING SAFETY SYMPOSIUM

Developed by the NATA Safety Committee, the new annual event promotes a positive safety culture and industry best practices at FBOs and other general aviation businesses providing ground handling services.

The National Air Transportation Association (NATA) concluded its two-day inaugural Ground Handling Safety Symposium held at the NTSB Training Center in Ashburn, Virginia. Developed by the NATA Safety Committee, the new annual event promotes a positive safety culture and industry best practices at FBOs and other general aviation businesses providing ground handling services. Attendees heard from safety experts and aviation business leaders on a range of topics, including the importance of Safety Management Systems (SMS), how to cultivate an internal safety culture, and best hiring practices in safety-focused aviation businesses.

"The Symposium was first proposed by NATA's Safety Committee as a forum for FBOs and ground handlers to explore safety issues and share experiences in an open format. While we have met that goal, we will

use feedback from participants at this inaugural conference to continue growing this event," stated Michael France, NATA's managing director of safety and training.

Bob Schick, TAC Air director of safety and risk management, who also serves as the NATA Safety Committee chairman added, "I appreciate the work of the NATA staff in helping to create a symposium that exceeded the expectations of the committee. The quality of speakers, depth of topics, and interaction between the attendees and speakers, resulted in a very successful event. Many participants have already committed to further discussion at next year's



symposium. Already, this is a must-attend event for FBO managers, line managers and other safety personnel."

Bill Deere, NATA executive vice president of government and external affairs emphasized the importance of the event, "The symposium's success is a result of the safety committee addressing an industry void and providing input to develop a meaningful program agenda for ground handling professionals. Most important, this was not an event where people spoke at attendees, but rather one that depended on constant interaction among all the ground handling professionals in attendance."

Deere also provided attendees with a legislative update, encouraging them visit NATA's Legislative Action Center to voice their opposition to the House proposal to privatize the nation's air traffic control system.

"It was great to see new faces from across the industry, as well as the globe, attending the symposium. The various perspectives on the intersection of training programs, audits and data with ground handling safety makes this an important and unique annual event," concluded France.



Photo courtesy of NATA

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Find the Best Financial Solution for GSE

From purchase options to dollar buy out leases, it pays to make the best decision for your operation's needs and financial future.

By Jen Bradley

Lease or buy? Long-term or short-term? These are questions ground support professionals have had to weigh regarding their equipment purchases for a long time. Truth is, the answers may change and adapt as the industry changes, or as a company grows or contracts.

Today there are a large variety of options for ground support equipment financing, in addition to an assortment of actual equipment.

From purchase options to dollar buy out leases, it pays to work with a professional who knows their stuff and can help ground service providers make the best decision for their needs and financial future.

A New Generation

"We come along and give them five different options and most of the customers will listen,

but sometimes it takes a little time to have somebody change the way you do things," says William R. Long, president of Xced Aviation Services, which after four years in business is at 82 airports nationwide through 60 customers. It offers a variety of flexible leasing options, refurbishment financing as well as traditional fixed-purchase option financing.

Long is referring to the new generation of ground support equipment professionals and the changes they are embracing in the industry. He says Xced is not just in the business of financing, but overall asset management, understanding that ground support professionals need someone to help them manage their equipment needs, from cradle to grave, for their entire lifecycles.

This traditional way of doing business is one Neil Bennett, the national finance manager for



TCF Equipment Finance's Airport Ground Support Equipment Division, is familiar with and agrees is changing. On significant change is how equipment fleets are financed and TCFEF provides a variety of options for.

Bennett says he was educated to never lease; however, he explains buying outright is not the only solution for GSE needs.

If a new station is starting up, a GSE customer may choose an option to lease the equipment for three years to see if that endeavor is going to work long-term, and then, stagger leases to provide flexibility.

"This decision often is made by senior management who align financial decisions with business strategy," adds Bennett. "Are they absolutely intent on buying, or maintaining financial flexibility should market conditions change or opportunities present themselves for growth?"

Knowledge is King

Here's where the candid conversations must take over.

Peter Stearn is the vice president at Fort-brand Services Inc., which has been offering a large GSE fleet of new and used pieces to its clients for more than 30 years. The company sells new equipment, but also rents and leases to clients as needed.

Stearn explains that airline customers with little threat of going out of business soon will tend to purchase new equipment, and he sees little risk in that practice, as they are likely to benefit from the entire useful life of a piece of equipment. In a down economic cycle, however, he's seen them turn to leasing and renting to keep capital close.

Even though the client may walk in knowing what they want, TCFEF's Bennett adds that an intelligent conversation about what is prompting them, what issue they may be having, and the operation itself is a must.

"Climate, location, size of operation, we review all those factors," he says.

One client may be looking to replace old equipment and expand into new markets, while another is under a new three-year contract and needs equipment to match that. Bennett adds other factors to consider include ground power, electrical power, number of baggage carts and maintenance,

among many others.

"It makes a big difference if you work with a financing professional who knows the industry," he says.

He says if a ground support provider simply says they want to lease five electric bag-

gage tractors, and the financial professional offers a low interest rate and secures the payment, but doesn't ask what the tractors are for, both could be in a world of hurt later on.

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at O'Hare or two hours a month somewhere else? The financing professional may not even offer the financial product that meets their needs," Bennett notes.

"All my people are industry people," adds Xced's Long. "We don't have to teach them what equipment a client would need to service a 737."

He says that "talking shop" is critical in a successful relationship, and ground support professionals should find a financial group that can do the same.

"We recently completed a client survey and they told us that the reason they prefer doing business with Xced is our industry knowledge," Long says.

Finding Flexibility

Xced keeps an inventory of approximately 200 pieces of new, used and refurbished equipment, all the basics that will get a client up and running at an airport.

"We try to make sure our customers have the equipment they need, where they need it, when they need it," notes Long.

He explains that sometimes ground handlers are given 60 days to put a contract in place, which is too soon to have a purchase order placed and fulfilled for new equipment.

"We can generally ship GSE to an airport within 24 hours after receipt of an executed rental or lease agreement," he says.

Fortbrand's Stearn adds to this, saying that special events such as the Super Bowl, a NASCAR race, political event, etc., increase the need for a financial provider to provide flexibility.

"There are all sorts of scenarios that arise to give need to a short-term rental," he says. "We can accommodate any requirement a customer may have."

"A client may need more or less equipment, to move equipment or may need completely different equipment," concurs Long. "We have the ability to change on the fly and provide that flexibility."

He says many of the ground handling companies aren't in the business of selling equipment or finding another home for a tractor if they don't need it anymore. But they need flexibility from their financial partner (aka fleet manager) instead.

Flexibility, in Bennett's mind, does not mean using a line of credit to finance equipment. If an emergency occurs in the business or a need arises to keep the business afloat, the last place you want the money tied up is in daily operational equipment, he says.

"You can fix your problem, and pay that back by using the right financing for the right products," Bennett says. "Finding the right financing solution is critical."

He adds to that line of thought by saying that the airline industry is very tumultuous.

"GSE companies are finding new contracts and losing old ones. You can move with the market conditions, and not be stuck with something you have to try and sell," he says in terms of leasing.

New or Used?

The advantage to owning a piece of equipment is in knowing it will have a long, useful life, which may make sense in long-term contracts for a provider. The lifespan also depends on the buyer's maintenance on that equipment, Fortbrand's Stearn explains, adding that the cost of new equipment is changing in terms of the Tier 4 requirement, as well as other add-ons such as the collision avoidance systems.

The flip side, then, is used equipment.

"There's no rule of thumb," Stearn says. "Depending on the piece of equipment, what's been done to it, the age, it could be a significant discount and make a lot of sense to a customer."

Many times, the ground handling companies prefer this option, versus the airlines, Stearn notes.

In 2016, Xced opened its first refurbishment center in Indianapolis, and Long explains this is what truly helps clients through an equipment lifecycle journey.

"If today the customer needs a tractor to push a 737 around, we provide that tractor," he says. "But if tomorrow, the contract changes and now he needs to service a 747, we take the tractor back and put a different one in. Financing is part of the equation, but it's more lifecycle management. Having our own captive refurbishment capabilities along with unlimited financing options provides the ultimate in flexibility for our clients."

TCTEF's Bennett adds to this conversation by saying that there are specific types of equipment that provide a better value. What is a good refurbishment? He says if it is just pressure washed, has its tires replaced and then given a new seat, that is not a great definition of refurbishment.



Photo courtesy of Fortbrand Services, Inc.



"Or, has the unit been zero-timed?" he asks, and adds that a bad refurbishment can be a hit on the leasing company's reputation too.

"We're simply a finance portion of it," Bennett explains. "But the client might get upset with a product's reliability and not want to pay for it."

"I don't want to get involved in buying someone else's problem," Long agrees, saying this is the reason Xced's refurbishment program has been brought in-house. "We don't know what level of refurbishment someone else has completed, so we generally avoid the problem by utilizing our own GSE where we know the actual condition of the GSE."

Final Thoughts

"There are good people at the airlines and ground handling companies," says Stearn. "Everybody's trying to do the right thing and share information, help each other out."

Long agrees. He says people are not looking realistically at GSE equipment if they

believe their equipment needs won't change.

"They will," he says. "We are in business now with people I never thought we'd get business with, and it's because they are figuring out that flexibility allows them to better run their business."

Bennett concludes by saying all of these factors are why a continuous conversation is important for both sides. He encourages GSE providers to ask the tough questions and the financial professionals to ask them back. **GSW**

▶ ABOUT THE AUTHOR:



Jen Bradley, owner of Bradley Bylines, is an aviation writer based in Wisconsin. She may be reached via her website at www.bradleybylines.com.



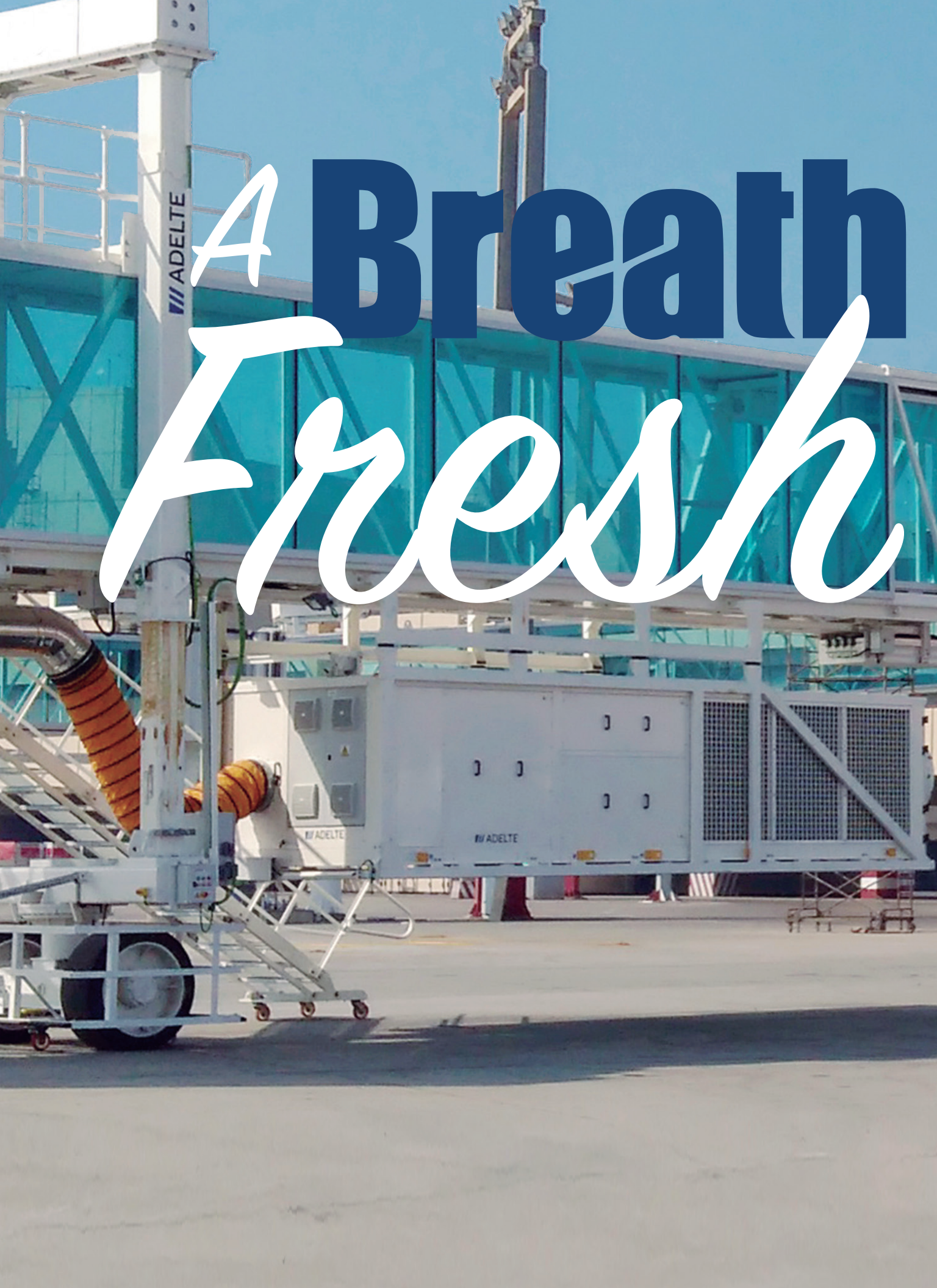
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A Breath Fresh

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Environmentally friendly GSE like ADELTE's PCA with full inverter technology can help airports, airlines and ground service providers reduce their carbon footprint.

By Josh Smith

Whether prompted by new energy-saving initiatives or simply a desire to protect the earth, people around the world are looking for ways to reduce their impact on the environment. The aviation world is no exception.

According to a press release from Airport Council International (ACI), the Intergovernmental Panel on Climate Change (IPCC) has estimated that aviation's total CO₂ emissions account for 2 percent of global emissions' impact on climate change.

The figure noted that airports' own operations only account for up to 5 percent. However, airports are seeking ways to reduce greenhouse gas emissions and become carbon neutral. In fact, multiple airports have already done so.

One way airports can reduce emissions, especially if a station is seeking to be certified in the Airport Carbon Accreditation program, is to seek out environmentally friendly ground support equipment (GSE).

Officials at ADELTE point to energy efficient pre-conditioned air (PCA) units as a logical place to reduce emissions.

"GSE, including PCAs, are one piece of this action that airports can do to reach this level of carbon neutrality," says François Mamert, marketing director at ADELTE. "More and more airports are reducing the minutes allowed by the use of the APU – the auxiliary power units – of the aircraft."

When airports limit the amount of time aircraft can utilize APUs, an alternative solution must be offered to keep the planes at a comfortable temperature for passengers. Mamert says a PCA is a win-win for airports and airlines.

"The service of the PCA is a new way for airports to generate income because they'll charge the airline," he says, adding airlines are happy to pay for PCA service because it is less expensive than paying for the fuel needed to run the aircraft's APU.

"Air pollution, CO₂, NOx or micro-particles are reduced to almost 0 percent, compared to the use of APUs," Mamert adds.

ADELTE offers two ranges of PCA equipment – standard PCA units and others equipped with the company's full inverter technology. The inverter technology offers additional efficiencies, according to Raul Perez, PCA sales manager at ADELTE.

This range of PCAs utilizes two inverter compressors, and a direct drive centrifugal blower managed by a frequency driver in order to use less energy. Perez notes numerous parameters can be adjusted so that the PCA is operating at the appropriate capacity,



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regardless of the aircraft's size.

"You can modify the frequency from 20 to 100 hertz along a range of frequencies," he says. "We can review and select frequency and decrease the load.

"All of this can adapt the capacity."

"Most PCAs, or standard PCAs, run off one compressor. They're functioning 100 percent or they're not functioning," Mamert

adds, noting a PCA does not necessarily need to run at full power to effectively control the temperature of a cabin.

ADELTE's PCA inverter is capable of cooling and heating parked aircraft. When heating planes, the unit uses a heat pump that is integrated into the system. The heat pump consumes less electricity than other PCAs that utilize an electrical resistor.

In fact, Perez points out ADELTE's PCAs equipped with a heat pump are three times more efficient than similar models relying on an electrical resistor.

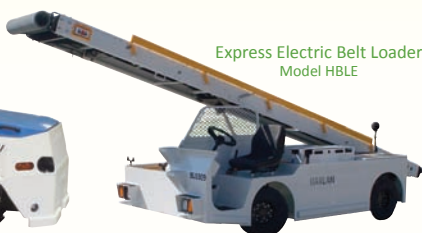
What's more, these PCAs use R-410A refrigerant, which provides greater efficiency and significantly reduces refrigerant load and CO₂ emissions.

The unit's PLC control allows the PCAs

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to be accessed remotely or via a touchscreen interface that allows users to control all function parameters during operations, which helps ensure efficiency, too.

While ADELTE's inverter technology is still relatively new, it has been installed at a number of airports, including Palma de Mallorca Airport in Spain where multiple units have been operated for a year and a half.

"It's giving good results," Mamert says.

ADELTE developed the technology as part of the company's effort to return to the airport market in 2012. Already offering boarding bridges, company officials determined that those customers seeking passenger boarding solutions would also need PCAs to keep those people comfortable onboard the plane.

"We wanted to be able to offer the full package to our clients," Perez says.

The key is to be **efficient.**

Additionally, ADELTE sought feedback from those clients about the challenges they faced on the ramp. That response resulted in the creation of the inverter technology.

"Because we have a good relationship in the airports with the maintenance workers, and want to improve our products at the gate, we received the feelings of the people of the airport – the people working with the PCA," Perez says.

Communicating with customers has been key, not only for developing new technology, but also ensuring the appropriate PCA unit is installed for that particular airport.

"We take a lot of areas into consideration in order to have the client choose the right technology, the right model and the right size of PCA," Mamert says. "It depends on the location, it depends on the weather, the humidity and the temperature, and on the aircraft code"

The key is to be efficient, and Mamert explains efficiency can refer to the economic impact for a customer as well as the environmental impact on the planet.

"In the end, it's a basic concept," Mamert says. "You're just giving what is needed. Not more." **GSW**



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DNATA EXTENDING GSE LIFE WITH RECYCLING PROGRAM

Global ground handling provider, dnata recently announced it was increasing its recycling program in the United Arab Emirates at both Dubai International Airport (DXB) and Al Maktoum International Airport (DWC). The company, which has a fleet of 12,000 units of ground support equipment (GSE), launched the program earlier this year.

During that time, more than 80 pieces of GSE have been renewed at its 36,000 sq. m. GSE maintenance base, according to a recent press release. dnata says this has significantly reduced pollution generated by its GSE in addition to improving safety and over quality. Officials at dnata estimate 140 pieces of GSE will be recycled in 2017. Rather than replacing GSE, as was the previous practice, dnata is now giving the units a mechanical overhaul and putting operations equipment back into service. This can extend the lifespan of the GSE by up to 18 years.

"Our reality is that sustainability is necessity, not a choice, and at dnata, we endeavor to meaningfully fulfil our environmental responsibility wherever we operate," dnata president Gary Chapman said in a press release. "We are extremely motivated by the success of our GSE recycling program in Dubai. It provides us with a tangible way to reduce our carbon footprint at the source, rather than carbon offsetting as a way of merely clearing the corporate conscience.

"It has been rewarding to see the impact of this initiative, and it is the



Photo courtesy of dnata

start of many initiatives dnata has in the pipeline to bring about a change in the way we use resources, in our effort to promote sustainability. We are getting creative and innovative when collaborating with our equipment suppliers, to seek more

environmental efficiencies for our fleet," he added.

Globally, dnata has 300 pieces of environmentally friendly electric tow trucks, forklifts, conveyor belts and pushback tractors in operation, with plans to expand that number.

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How Australia's Population Distribution Influences Ground Handling

There is a large divide between the availability and provision of ground handling services between the major airports and the Australian outback.

By Mario Pierobon

Australia has a sophisticated aircraft ground handling infrastructure that caters well to a growing aviation industry. One of the distinctive features of Australia is that the country is very large by size but it only has a population of around 25 million people. Most of the land located in the middle of Australia is barren and desert like, so most of the population resides along the coastline, where all the major cities are located.

Indeed there is a large divide between the availability and provision of ground handling services between the major airports and the Australian outback.

"The airports of the major cities all have one or more players offering ground handling services, while only the more remote locations have possibly only a single player. It is often Australia's national

carrier – Qantas – that offers ground handling services at the more remote locations. These airports just do not get enough traffic to enable many players," says Derek O'Reilly, managing director of Universal Aviation Australia.

"The ground handling infrastructure in Australia is part of a mature industry that has developed alongside the increase in traffic volumes. Major and regional airport handling companies have adapted and expanded over the years, most recently with the arrival of the A380 into markets such as Brisbane, and the huge increase of flights as a result of low-cost carriers such as Virgin and Jetstar," adds Gary Forster, regional FBO manager, ExecuJet Asia-Pacific.

Since the economic outlook is positive and Australia offers a growth potential, earlier in the year ExecuJet expanded its presence in Sydney, New



Photo courtesy of ExecuJet

South Wales, with the acquisition of an FBO to complement its existing maintenance, flight operations and administration facility.

The recently renovated FBO is located at Sydney's Kingsford-Smith Airport, which is 12km from the city center, and consists of a dedicated VIP guest lounge, passenger ame-

nities and private meeting rooms for guests in transit as well as customs and immigration processing facilities. The FBO employs 20 staff members including management, ramp coordinators, customer service agents and administration staff.

The case of ExecuJet is noteworthy

also because this year has marked the 10th anniversary of operations in Melbourne, Victoria.

ExecuJet Melbourne offers MRO, FBO and aircraft operations services. The MRO houses a 2,700 sq. m. facility, workshops and stores, supporting Melbourne-based



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and visiting aircraft. In 2011, ExecuJet expanded its services to include an FBO, providing passengers with VIP services and amenities from a dedicated, purpose-built VIP lounge.

ExecuJet's Melbourne MRO holds an Australian CASA Certificate of Approval, New Zealand CAA approval and is an FAA Part 145 Repair Station, enabling the company to work on a wide range of business

Photo courtesy of ExecuJet



THE MANAGEMENT OF SAFETY

South Pacific countries, such as Australia and New Zealand, reveal the professional culture that dominates the ground handling business is very much western style.

"Personnel are organized in unions, and this means there is some kind of distance to management with regard to the organization of labor. The occupational health and safety systems seem to have significant strength when it comes to workers being represented and accounted of in various company committees," says aviation consultant Ivar Busk.

"The procedures are well documented and follow international requirements. IATA programs like ISAGO are well implemented; however, like in many other parts of the world, it is not regulatory mandated by the Australian Civil Aviation Safety Authority (CASA). Staff are only required to follow CASA programs."

During the last several decades the Australasian Aviation Ground Safety Council (AAGSC) has played a significant role in implementing and improving the ground safety culture based on best practices.

"The membership of AAGSC includes many airlines, ground handling companies and airports in the Australasian region. Unfortunately, the Pacific Islands have not shown great interest in the AAGSC's initiatives, but, nevertheless, follow the IATA management system standards and operating procedures as well as their own procedures," says Busk.

"The work of the AAGSC is performed by staff employed by the various member organizations, which unfortunately sometimes only allow limited time for such works. However, as the forum is the only one to discuss ground safety issues in this part of the world, it is important that it continues to develop and industry players are aware of this and continue to support the endeavours of AAGSC."

In general, the equipment used has a reasonable standard and follows the international regulations.

In most area in the South Pacific, the weather climate is also a plus as temperatures very rarely get below zero in most of the region, thereby limiting, to an extent, the potential for bad weather to severely endanger aircraft ground handling operations, concludes Busk.

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Even if the market for aircraft ground handling services is healthy, there are also some operational challenges for ground handling companies in Australia.

"Several Australian airports, for example, have curfews, which dictate when an aircraft can arrive and depart, due to the airports being located quite close to residential areas. The more remote locations also have runway length restrictions, which eliminate certain aircraft traveling to those locations," says O'Reilly. "In addition, staff costs are extremely high in Australia, so many of the locations would hire casual staff to assist with operational duties, rather than having full-time staff.

"Staff costs are also a result of charges for services being higher – compared to the US, for example. On the contrary, the level of service in Australia is quite high, the staffs

ers such as Qantas, Menzies and dnata and could benefit from increased competition. However the start-up costs for any new company would be significant and with no guarantee of a sustainable business in a market with large labor costs."

One of the peculiar traits of the handling business in Australia is the big divide in terms of the development of aircraft ground handling services between urbanized and peripheral areas of the region. This is due to the fact that there are very few private aircraft traveling to the remote locations of the Australian outback.

Depending on how the resource sector will perform in the years ahead, the remote locations could represent a business opportunity.

"I believe that further development will only occur in these locations when and if traffic increases. Many of the remote locations are resource driven and it could be an increase in commodities that would increase interest and traffic to these locations. This is with exception of the famous Ayers Rock, which is centrally located and it is an important tourist attraction," concludes O'Reilly. **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 marioprbrn@gmail.com.

Photo courtesy of ExecuJet



are well trained and our safety standards are very high."

"The sheer volume of passengers now travelling domestically and internationally has grown rapidly, with almost all airports showing increasing numbers. This has meant the ground handlers have had to expand to cope with increasing flights and aircraft sizes," adds Forster.

"In addition to this, new equipment purchases have become vital to keep up with the latest aircraft, such as A380, B787 and A350. With the increased number of travelers, many new airlines have started with previously rare equipment in the region such as BAe146, Saab 340, E190, ATR etc., which has posed equipment challenges for the ground handlers," he says. "The ground handling is dominated by a handful of play-

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Handling the Future: How Conveyance and Security Will Drive Airport Expansion and Improvement

With baggage technology evolving, airports need to plan for the demands of airlines and passengers today to prepare for tomorrow.

By Tim McGill

Smart conveyor systems are playing an increasingly pivotal role in the daily operations and projected expansion of the commercial airport baggage- and cargo-handling market. This market is projected to grow at a compound annual growth rate of 7.5 percent from 2016 to 2021 due to the increase in air traffic and modernization of airports.

The main source of growth in this market is derived from the construction of new airport terminals and the expansion of existing facilities across

the globe. This anticipated growth is directly tied to projections from the International Air Transport Association (IATA) that forecast the total number of airline passengers will reach 3.91 billion this year, an increase of 930 million passengers since 2012.

Airport professionals are looking for ways to optimize material-handling operations in order to keep up with the growth.

Trends and Challenges

With this growth as the major catalyst, industry professionals strive to make conveyor systems more efficient, while also addressing passenger demands for online baggage tracking, and the increasing need for worldwide security for carry-on and checked bags as well as other types of scanning (i.e. packages). These

needs will require decision makers to consider more sophisticated technologies in baggage handling and security/tracking.

One of the major disruptive trends is the advent of online tracking that enables a passenger to track a bag all the way from drop-off to pick-up. Delta, American Airlines and Lufthansa currently offer online baggage tracking, and more airlines are adopting this feature as passengers request more visibility and real-time data regarding their bags.

As rules change surrounding what passengers can pack in carry-on bags, and as airlines increase the costs associated, passengers are demanding increased accuracy and more timely delivery of their bags. Similar to trends in the ecommerce industry, the growing need for higher throughput and higher accuracy causes a change in the way goods are being handled and in this case, how airports are being built.

Installing smarter conveyor systems with advanced scanning features to reduce slippage helps improve the ability to effectively track checked bags and help resolve passenger worry; this instills confidence that checked bags will be delivered in a timely fashion and without damage.

In conjunction with improving baggage tracking processes, airport modernization efforts are improving the design of its check-in counters. As the first stop in the baggage-handling journey, airports are looking to install advanced conveyor and motor systems in the check-in counters, in order to increase efficiency and incur less maintenance fees, less downtime and operating costs throughout the entire process.

Handling Security Matters

As rumors of eliminating all laptop carry-ons persist, security continues to be a major issue that affects how airports treat carry-on luggage and



therefore how passengers prepare for travel.

When updating baggage-handling systems, it is also necessary to assess security checkpoints to ensure that intelligent scanner systems are in place. Many companies involved in baggage handling components and technology are also involved in carry-on checking and scanner systems.

Because technology continues to improve in its detection capabilities, including new systems that can better detect types of liquid and gels, it is important to assess new solutions for integration, especially during airport remodel and modernization. Such automated technical solutions may help eliminate persistent carry-on fears and also ensure travels adhere to the proper safety guidelines. Many countries that have legislated a draconian carry-on policy haven't employed the latest scanning technology. This will exert pressure in several directions.

First, global scanning manufacturing will likely develop upgrades fairly quickly in order to capture this market. Second, airport facilities in higher security zones will ultimately not want to restrict incoming passengers for laptop and other security concerns and will take major efforts to upgrade to more efficient scanning equipment.

Facility decision makers and system integrators will need to integrate systems that will handle increasing throughput, reduce costs, and enable them to negotiate the changing global security landscape.

Global Solutions

Today's air travel is not as simple as it was two decades ago, with the increased complexity of multiple security threats for both passenger and freight aircraft, the latter of which is growing at a significant rate and requires as much or more conveyance, scanning and checking than the baggage scenario. This demand drives important considerations for both incoming and outgoing cargo.

Supplier consolidation is one major consideration. As airports are responsible for all incoming baggage/cargo, working with a single supplier enables better, more efficient overall service to manage inventory, spare parts and maintenance, decreasing the likelihood of downtime and undelivered or delayed delivery of baggage or freight.

That, of course, is no substitute for install-

ing and maintaining durable equipment. Interroll, for example, has a curve belt at LAX that's been in service for more than 55 years, without any unplanned downtime, utilizing the company's routine maintenance. With airport space a costly premium at most facilities, repairs in restrictive spaces are often not easy, reaffirming the need for durability and reliability.

Growth will continue to **drive** how and when airports **upgrade** or **refurbish** conveyance systems, for both **baggage** and **cargo**.

Major improvements in belt curve design, one component integrated into complete baggage- and freight-handling systems, offer some solutions. First, increasing the speed at which the belt curve operates can improve throughput, a major advantage for airports that need to accommodate more and more travelers, while maintaining high security screening levels.

Second, improving belt curve durability dramatically reduces downtime, enhancing traceability and making increased reliability of baggage delivery more achievable for airline companies and reducing penalties associated with delivery delays. That reliability and durability hinges on making a critical decision in choosing between traditional belt-curve friction drive and positive drive. Positive drive requires significantly less maintenance and reduces failures, increasing durability and uptime.

Some standardization between airlines and airports is paramount. Global consultants have a strong and influential role in decision making, particularly at major airports. It's becoming common practice for major global suppliers to not only supply the equipment but to offer service packages as well, driving what's becoming a more integral, multifaceted transaction. This practice reduces complexities, ensures ongoing main-

tenance plans are adhered to, reduces downtime, and mitigates overall costs.

Growth will continue to drive how and when airports upgrade or refurbish conveyance systems, for both baggage and cargo. Passenger counts continue to increase and cargo companies are seeing significant growth driven in the e-commerce freight space.

In a tense world, security will also continue to affect upgrade decisions. In the security space, the change toward motorized drive rollers used in intelligence affords lower energy consumption, high levels of safety, and offers an easy passenger interface. It checks off a number of important boxes for implementation.

Technology exists and has been deployed at facilities such as Heathrow's Terminal 5 enabling multiple lane scans from a single location. At this terminal, improved 24-volt tray conveyor system allows for higher accuracy tracking and scanning, and also eliminates additional staff who, in a traditional system, would be required to physically handle trolleys full of trays to be reused.

Continued system automation will also factor into future operations, as it will eliminate the need for additional staff to tend trays, saving space and improving efficiency required to move tremendous numbers of people through the system.

Key decisions will have to be made going forward depending on the type of baggage that facilities predominantly handle: cost efficiencies, space requirements or restrictions, equipment durability and reliability, service and maintenance, and new security and automation technologies. And how airport facilities deal with baggage as a revenue stream will also play a role. Airlines will likely continue to be aggressive about charging for luggage, and that too will determine how baggage is handled and how that's marketed to the passenger.

How quickly a bag makes it to the carousel is becoming part of the airline promise. Some airlines are now offering guarantees about how fast your bag will be on the carousel, which drives the need to assure a high speed of delivery. Furthermore, the trend in many countries to strengthen airline traveler rights will push not only legislation to protect and compensate passengers, but also will drive customer service from a revenue perspective.

On the freight side, security scanning will become an increasingly higher profile issue. One emerging trend is moving from charging for weight to charging for size, which is driven by the fact that today's aircraft can deliver greater lift capacity. Before, handlers would weigh out before bulking out. Now the reverse is employed, creating a trend toward smaller, heavier packages because the planes can lift more. That will apply pressure to throughput, with an increase in demand in general and in the number of packages.

Beyond Airports

In addition to baggage handling, an important role in airport logistics is played by global couriers such as UPS, FedEx and DHL. With pressure to move goods across the globe as fast as possible, these global players use air transport as a chief aspect of their business and have large facilities near

some of the world's busiest airports. It is important for facilities of major airports to be aware of the trends impacting the baggage-handling industry, as they can benefit from sophisticated conveying technologies that improve throughput, tracking accuracy, and save space.

Up Up and Away

Vigilant facility decision makers and inte-

grators are keenly aware of the demands that drive growth and will need to consider important factors for conveyance and security going forward, whether it's a tray-handling system or a conventional belt, friction or positive drive rollers, curve-belt durability, or improved carry-on scanning technology.

It's never too early to evaluate, plan and execute how best to accomplish those goals. **GSW**



► ABOUT THE AUTHOR:

Tim McGill is the Executive Vice President of Americas at Interroll Group. Prior to joining Interroll as a Sales Director in 1990, he worked at Brammer, Europe's leading supplier of quality industrial maintenance, repair and overhaul products in a series of roles with increasing management responsibility. After serving as President of Werner Precision Rollers Canada for one year, he rejoined Interroll in 1996 as President of Interroll Canada.

In 2000, McGill was promoted Head of Interroll Dynamic Storage North America and since 2011, has been acting as Executive Vice President Americas and is a member of Interroll Group Management.



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Simulate Operations to Achieve Real Safety

The L3 PushbackSim can help users develop proper GSE techniques to ensure efficient aircraft turnaround, less ground damage and an improved bottom line.

By Josh Smith

The L3 Commercial Training Solutions team stresses the importance of ground operations safety, especially when training employees on specialized ground vehicles.

In addition to employee safety and improved handling skills, proper understanding and operation of ground support equipment (GSE) ensures efficient aircraft turnaround, less ground damage and an improved bottom line.

Dave Rapley, VP of Training Systems at L3 Commercial Training Solutions, explains the key benefits to implementing the company's PushbackSim training simulator.

"We believe simulation-based training is a critical training tool to help reinforce positive decision-making in a safe, risk-free environment," he says. "This translates into reduced accidents, better decision-making and reinforcement of policy and procedure."

"Better trained ramp crews reduce operational costs and additional capital investment in vehicles," Rapley continues. "By integrating simulators into a training program, aircraft and equipment are spared heavy use, require less maintenance and last longer."

The first production system of the new PushbackSim was delivered on Dec. 15, 2016 to one of the largest domestic airlines.

"Our legacy version of the L3 pushback and deicing simulators were originally manufactured and designed by L3 MPRI and gForce Technologies," Rapley explains, noting those entities are now part of the L3 Commercial Training Solutions product line.

The redesigned PushbackSim incorporates several hardware and software improvements. The most prominent upgrade is the utilization

of the L3 Series 6 product line design, including a new modular visual display system and driver cab compartment.

"The Series 6 Visual Display Unit (VDU) is mated to a versatile driver compartment/seat-base for pushback operation. The seat-base is designed on a rolling sled that mounts to the VDU," Rapley says. "The sled is comprised of



*All photos courtesy of
L3 Driver Training Solutions*



a seat, steering control, brake and accelerator pedals, a dashboard and a single touchscreen on the dashboard. The dashboard-mounted touchscreen provides lesson selection interfaces as well as tractor control/instrumentation interfaces."

The simulator is modeled after the FMC B1200, or FMC Expediter 160 (towbarless) tractors and can simulate operations on Airbus (A319, A320, A380), Boeing (B737-400, B737-800, B747-400, B757-200, B757-300, B767-400, B777-300), De Havilland (Dash 8), Douglas (DC-9-30) and Embraer (ERJ145) aircraft.

"The PushbackSim is equipped with scenarios and software to train on both towbar and towbarless tugs. L3 professional services also offers engineering and visualization software capabilities to customize scenarios and database development to support additional types of environments and training objectives," Rapley says.

Allowing employees to train and hone their skills with a simulator reduces potential damage to GSE as well as to aircraft. Avoiding ground handling accidents is critical to keeping operational costs down.

An independent study conducted by VanAllen, a business aviation consulting group, which investigated towing accidents over a two-year period.

"We believe that
improving ground
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operations efficiency
of our customers."

— Dave Rapley,
VP of Training Systems at
L3 Commercial Training Solutions

The results showed nearly 30 of the 80 aviation departments and FBOs that participated in the study had at least one ground incident during the time frame. The study found there were 64 ground events logged over the course of 168,810 aircraft legs flown, which came out to a ground-event rate of approximately one event per 4,000 flight hours.

The total estimated cost of these acci-

dents was in excess of \$12 million, breaking down to about \$586,000 worth of cost and lost revenues per event.

"We believe that improving ground handling operations is vital to the safety of personnel, sustainment of equipment and operations efficiency of our customers," Rapley says.

He adds that L3 regularly works to understand its customer's needs in order to make cost-effective, value-added improvements to their training capabilities.

"All L3 driving simulator software is equipped with remote support capabilities for software updates on-site," Rapley explains, noting the company also provides driving simulators for other GSE, including fueling trucks, catering vehicles, passenger buses and airport security vehicles.

"As technology advances in the future, L3 strives to build solutions that help customers get the most out of their investment, while balancing maintenance and costs. Our upgrade program offers a simple and effective path to ensure customers leverage the latest technology and capabilities possible, while taking advantage of existing components that customers already own."

The PushbackSim, which measures 110.2" by 64.1" by 76.7", weighs 1,300 pounds and can pass through a 72" wide double door without center posts when fully assembled, can be set up in a fixed-site location or a mobile trailer that has the proper electrical and environmental conditions.

Currently three domestic airlines are using the newest version of the PushbackSim. Another airline utilizes the legacy version of the simulator. The simulators are deployed at airline training centers at Dallas-Fort Worth, Phoenix, O'Hare and Charlotte airports.

The PushbackSim is not meant to replace traditional classroom training, but rather enhance it, according to Rapley. The ideal approach is a dynamic, blended training environment where classroom time integrates with the advanced training simulator to test student skills before operating real equipment, he concludes. [GSW](#)





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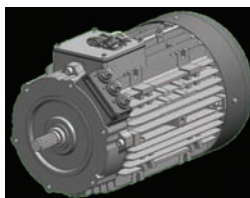


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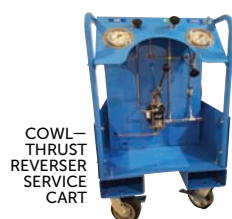
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Don't Resist Change, Embrace It

Adopting new technology isn't always easy, but there are ways to make the process less stressful.

Often in the pages of *Ground Support Worldwide*, we're discussing the latest technology advancements in the industry. It's not that tried and true practices aren't effective in many cases, but it's exciting to look ahead at what new equipment and methods can improve the turnaround process.

But adopting new technology isn't always easy. Changing the way we do our job takes us out of our comfort zone and it's natural to resist that.

While attending a trade show a couple years ago, I sat in on a discussion about embracing the future. Simon Anderson, a futurist for consulting company Venture Foresight, led the discussion and shared a number of tips about keeping up with new technology developments.

The advice that stuck with me most was the idea of finding a "reverse mentor."

Consider, a long-tenured employee with years of experience on the ramp may be the best candidate to train a new hire on how to properly use a piece of ground support equipment. He or she is a mentor.

Likewise, a younger member of an operation, who was born into a world of changing technology and is comfortable adapting with those advances, can be the best person to consult on the topic. That person would be a "reverse mentor."

Learning can, and should, take place in both directions.

Simply chat with your "reverse mentor" about technology. Ask questions if you don't understand something – just like you would expect the new hire to do during training.

Additionally, make time to read about developments in the industry (preferably, *Ground Support Worldwide!*). Collecting information from trusted sources and discussing it with those most familiar with it can make adopting new technologies much less stressful. Without the stress, stepping out of comfort zones becomes significantly easier.

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