

FUELING
EQUIPMENT

DECEMBER 2017/JANUARY 2018

Ground Support

WORLDWIDE

EQUIPMENT – SERVICES – HANDLING

TAKE A
BUSINESS
APPROACH TO

SAFETY

GROUND SERVICE PROVIDERS

Retention on the Ramp

Page 14

INTERNATIONAL

**How Japan is Using Technology to
Support Baggage Handlers**

Page 24

AviationPros.com



Supplying ground power units,
pre-conditioned air units and accessories
to customers around the world

SIMPLY SMARTER GROUND SUPPORT

- Modular design
- Smart solutions
- Reliable products
- Identical components

The future is here.
Find out more at **itwgse.com**.



AXA POWER HOBART HOUCHIN J&B AVIATION MILITARY

It's all about connections



SouthComm
Business Media
PO Box 803 • 1233 Janesville Ave
Fort Atkinson WI 53538
920-563-6388 • 800-547-7377
Vol. 25, No. 10

Editor

Josh Smith
920.563.1644 ▶ jsmith@AviationPros.com

Publisher/Sales

Missy Zingsheim
920.563.1665 ▶ missy@AviationPros.com

Advertising

Michelle Kohn
224.324.8529 ▶ michelle@AviationPros.com

International Sales Manager

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

List Rental

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

PRODUCTION & CIRCULATION

Art Director

Rhonda Cousin

Production Manager

Carmen Seeber
920.568.8373 ▶ carmen.seeber@AviationPros.com

Audience Development Manager

Debbie Dumke
920.568.1763 ▶ ddumke@southcomm.com

INTERNATIONAL AIRPORT GSE EXPO

Trade Show Director

Sue Ralston
920.563.1655 ▶ sue@AviationPros.com

AVIATIONPROS GROUP

Gloria Cosby ▶ Executive Vice President

Gerry Whitty ▶ VP, Marketing

Lester Craft ▶ Director of Digital
Business Development

SOUTHCOMM BUSINESS MEDIA

Bob Mahoney ▶ CFO

Blair Johnson ▶ COO

Eric Kammerzell ▶ VP, Technology

Curt Pordes ▶ VP, Production Operations

Subscription Customer Service
877-382-9187; 847-559-7598
Circ.groundsupportworldwide@omeda.com
PO Box 3257 Northbrook, IL 60065-3257

Ground Support Worldwide (USPS 0015-386), (ISSN 1934-2861 print; ISSN 2150-4016 online) is published 10 times per year in February, March, April, May, June/July, August, September, October, November and December/January by SouthComm Business Media, LLC. 1233 Janesville Ave, Fort Atkinson, WI 53538. Periodicals postage paid at Fort Atkinson, WI 53538 and additional mailing offices. POSTMASTER: Send address changes to Ground Support Worldwide, PO Box 3257, Northbrook, IL 60065-3257. Canada Post PM40612608. Return undeliverable Canadian addresses to: Ground Support Worldwide PO Box 25542, London, ON N6C 6B2.

Subscriptions: Individual print and digital subscriptions are available without charge to qualified subscribers worldwide. Please visit www.aviationpros.com and click on "Subscribe".

Publisher reserves the right to reject non-qualified subscriptions. Subscription prices: U.S. \$46 per year, \$88 two year; Canada/Mexico \$67 per year, \$124 two year; All other countries \$98 per year, \$185 two year. All subscriptions payable in U.S. funds, drawn on U.S. bank. Canadian GST#R42773848. Back issue \$10 prepaid, if available. Printed in the USA. Copyright 2017 SouthComm Business Media, LLC.

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recordings or any information storage or retrieval system, without permission from the publisher.

SouthComm Business Media, LLC does not assume and hereby disclaims any liability to any person or company for any loss or damage caused by errors or omissions in the material herein, regardless of whether such errors result from negligence, accident or any other cause whatsoever. The views and opinions in the articles herein are not to be taken as official expressions of the publishers, unless so stated. The publishers do not warrant, either expressly or by implication, the factual accuracy of the articles herein, nor do they so warrant any views or opinions offered by the authors of said articles.



▲ COVER STORY

18 Take a Business Approach to Safety

Implementing an SMS provides an operation with structure to help ensure best practices are achieved.

► INTERNATIONAL/FEATURE

14 Ground Service Providers: Retention on the Ramp

Employee turnover within the ground handling market is an issue faced by many. What steps can be taken to prompt ramp agents to stay?

24 How Japan is Using Technology to Support Baggage Handlers

Officials at CYBERDYNE have created robotic suits that reduce physical strain in order to improve working conditions on the ramp.

28 Fueling Safety From Refinery to Wingtip: What Really Goes Into Clean, Dry Fuel

Safe fueling of aircraft starts at the refinery and continues all the way to FBO operations.

32 A Software Platform Set on Fueling Efficiency

The airline.ONE solution from FuelPlus comprises modules designed to automate specific aviation fuel management processes.

► DEPARTMENTS

06 Business Buzz

34 Product Hangar

► COLUMNS

04 Publisher's Note

42 Editor's Note



▲ Publisher -
Missy Zingsheim
missy@aviationpros.com
920-563-1665

A Resolution to Expand

Ground Support Worldwide has big plans for the coming year, and we hope you do to.

Happy New Year!

Like many others do when a when the calendar flips from December to January, *Ground Support Worldwide* has set a New Year's resolution – to gain weight.

You heard me right, unlike the traditional resolve to slim down after the holidays, *Ground Support Worldwide* is planning on packing on a few pounds this year.

How does a magazine gain weight, you ask? Well, by increasing pages, using thicker paper and continuing to add new features.

Starting with our first issue of 2018 this February, we will be adding an Industry Expert column to every issue. But don't worry, you will still see our regular articles, too. They are not going anywhere, we are just expanding.

Keeping with that theme of growth, we would like to hear from you. Where would you like to see expanded coverage? We're always open to suggestions and encourage you to reach out with your feedback. Your thoughts can help us achieve our resolution to provide the most engaging magazine possible.

From the entire team at *Ground Support Worldwide* and *AviationPros.com*, we hope everyone had a great 2017, and here's to a fantastic 2018.

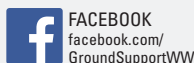
As always, thank you for reading!



► Advertiser's Index

A.T. Juniper	37	Global Ground Support.....	10	Proflo	21
AERO Specialties	35	Gorman-Rupp Pumps.....	11	Safety Systems & Controls	41
Aeroservicios.....	41	Ground Support Specialist	36	Schweiss Doors.....	40
Air Ocean Pros.....	40	GSE Expo 2018	5, 43	Servicore	38
Alberth Aviation	40	Harlan.....	26	Skymark Refuelers	16
Bryant Fuel & Power Systems, Inc.....	39	Hydraulics Intl	34	Telephonics	20
Columbus Jack.....	27	ITW GSE	2	Textron GSE.....	23
David Clark Company	7	Lektro.....	38	Timsan	9
Davin Inc.....	41	Mantec	41	Total Control Systems	30
Engine Distributors.....	44	Mercury GSE	40	U.S. Airmotive GSE	31
Flightcom Corporation.....	17	Par-Kan	39	Wanco	41
Fortbrand Services Inc.....	41	Phoenix Metal Products	29	Xcēd Aviation	13

**SOCIAL MEDIA &
ONLINE CONTENT**



OCTOBER 2-4, 2018

RIO ALL-SUITE HOTEL & CASINO

LAS VEGAS, NEVADA, USA

You're Invited!

Join us for the **ONLY** gathering of GSE industry professionals in 2018.

Use Promo Code **GSW18** to Register for FREE*

INTERNATIONAL AIRPORT GSE EXPO

BROUGHT TO YOU BY

**Ground
Support**
WORLDWIDE

IAEMA
International Airport Equipment
Manufacturers' Association



Attendee
registration
is now
available!



Why should you attend the 2018 Expo?

Products. Products. Products! With more than 70,000 net sq. ft of exhibit space, every major equipment manufacturer and solutions provider will be on site.

Live Demo area. Our massive outdoor exhibit area offers up-close and personal opportunities to see live equipment demonstrations

Networking: Friendly show hours and event layout enhances networking opportunities with GSE industry thought leaders and peers

All our suppliers were there and I had the chance to see their new technologies. Excellent venue for networking.

— Andreas Castro (attendee), SIACA

Who should attend the 2018 Expo?

* Only ground support professionals from the following market segments qualify for free registration

- ✓ Airlines
- ✓ Airports/FBOs
- ✓ Contract service providers
- ✓ Government/military
- ✓ Ground handlers

Hotel space books fast so make your plans today!
Be sure to visit **www.GSExpo.com** for information on registration and lodging.

► Upcoming Events

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
Dallax, TX

APRIL 10-12

MRO Americas
Orlando, FL

APRIL 15-18

AAAE Annual Conference and Expo
San Diego, CA

APRIL 22-25

IATA Ground Handling Conference
Doha, Qatar

INTERNATIONAL
AIRPORT
GSE
EXPO

**OCTOBER 2-4, 2018
AND
OCTOBER 20-22, 2020**

**RIO ALL SUITES HOTEL
AND CASINO
LAS VEGAS, NEVADA**

BUSINESS BUZZ

► TOP NEWS

Forecast Reveals Air Passengers Will Nearly Double to 7.8 Billion by 2036

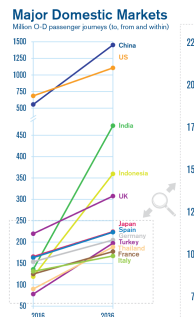
The International Air Transport Association (IATA) expects 7.8 billion passengers to travel in 2036, a near doubling of the 4 billion air travelers expected to fly this year. The prediction is based on a 3.6 percent average Compound Annual Growth Rate (CAGR) noted in the release of the latest update to the association's 20-Year Air Passenger Forecast.

"All indicators lead to growing demand for global connectivity. The world needs to prepare for a doubling of passengers in the next 20 years. It's fantastic news for innovation and prosperity, which is driven by air links. It is also a huge challenge for governments and industry to ensure we can successfully meet this essential demand," said Alexandre de Juniac, IATA's Director General and CEO.

A number of risks to the forecast have been identified. Maximizing the potential benefits of aviation growth will depend on current levels of trade liberalization and visa facilitation being maintained. If trade protectionism and travel restrictions are put in place, the benefits of air connectivity will decline as growth could slow to 2.7 percent, meaning 1.1 billion fewer passenger journeys annually in 2036. Conversely, if moves towards liberalization increase, annual growth could be more than two percentage points faster, leading to a tripling in passengers over the next 20 years.

KLM Awards Replacement Program of Lower Deck Loader Fleet to TLD

KLM has awarded a replacement program of its Lower Deck Loader fleet to TLD. KLM has decided to move to a full electric fleet and has selected TLD's TXL-838-reGen following almost a year of performance assessment.



The replacement program will start early 2018.

The TXL-838-reGen is a battery powered self-propelled, dual-platform electrical loader designed to transfer containers and pallets weighing up to 16,700 lbs.



AERO Specialties Releases Line of Solid-State Power Units

AERO Specialties released its newest line of solid-state aircraft rectifiers and frequency converters at the NBAA-BACE and inter airport Europe exhibitions.

Through a collaboration with Powervamp, AERO offers a line of 28.5V DC and 400Hz AC solid state ground power units. The newly launched products include portable, trolley-mounted, and towable options for 28V DC rectifiers as well as 45kVA and 90kVA AC frequency converters.

"We are excited about the launch of AERO's new line of solid state power units. These units' extensive aircraft safety features, outstanding efficiency, and heavy-duty construction made them a hit at the NBAA and inter airport exhibitions. With multiple orders booked at both events this October, it is clear to us that these units will be a popular and successful offering for AERO Specialties," said Pete Johnson, director of sales.



TBD Delivers Container Dollies with Safety Hoop System

TBD has delivered 700 container dollies featuring its patented safety hoop design to a flag carrier airline as part of a safety initiative. The company is rolling out this patented safety hoop system across its full range of baggage and cargo handling products.

TBD developed the safety hoop system which is designed to eliminate fatalities and life-changing injuries to ground handling staff. A bright yellow safety hoop is attached to the drawbar of its ACD157 container dolly,

providing a visible deterrent to discourage operators from taking the shortcut between adjacent trollies or trailers.

"In an airport environment where injuries are commonplace, safety is absolutely paramount. Equipment needs to be robust enough to withstand heavy usage and be used by inexperienced operatives in an industry with a high staff turnover. A solution to this problem is TBD's highly effective safety hoop system," said Steve Williams, engineering director at TBD.

SITA to Provide Bag Tracking at Istanbul New Airport

İGA, contractor and designated operator of Istanbul New Airport, has appointed SITA to implement its baggage tracking solution at what will be one of the world's largest airports, allowing airlines to meet IATA Resolution 753's baggage tracking requirements from Day 1.

"In building a new facility, we have the opportunity to implement technology or capacity to accommodate new technologies. One of the technologies that will become a must-have is baggage tracking to meet the June 2018 deadline of Resolution 753. As a service to our airlines, we have partnered with SITA to implement the technology to meet the requirements from day one of operation," said Ersin İnankul, CIO of İGA Airports Construction.

"Baggage is one key area where technology is improving the passenger experience," Jihad Boueri, SITA Vice President Airports for Middle East, India and Africa added. "Increasingly airlines and airports are helping to relieve the anxiety of waiting for bags to arrive by providing real-time information on the status of their bags to passengers. At the same time, by understanding where a bag is at any point in its journey, airlines will be able to act proactively to ensure that

a bag is correctly allocated to a flight, ensuring it arrives with the passenger at their destination."

The airport, due to open in 2018, will have capacity to accommodate 90 million passengers a year. Upon completion of all

four phases, the passenger capacity will reach more than 200 million passengers annually and will be required to track more than 75,000 bags an hour.



It's below zero degrees, wind is howling, spray is blinding, fingers frozen.

How's your deicing communication?

Contact David Clark for rugged, reliable communication solutions in the most demanding deicing environments. You'll save time, valuable fluids and enhance the overall efficiency and safety of your deicing and anti-icing operations.

Call **800-298-6235** (508-751-5800 Outside the USA) or visit **www.davidclark.com** for more information.


© 2017 David Clark Company Incorporated
© Green headset domes are a David Clark registered trademark.

WWW.DAVIDCLARK.COM



AviationPros.com/10017163

OAG Announces OTP Star Ratings

OAG has released its On-time Performance (OTP) Star Ratings, accrediting the top airlines and airports around the



world for superior performance. Delta Air Lines once again demonstrated on-time

excellence, finishing as the only legacy carrier to achieve 4 stars. Among North American airlines, Delta trailed only Hawaiian Airlines – the only U.S. carrier to achieve 5 stars.

OAG's biannual rating system is a global accreditation program that recognizes exceptional OTP across all airports and airlines regardless of size, geographic location or aviation peer group. The awards showcase the industry's premier performers, with the top 10 percent of airlines and airports receiving 5 stars. The awards are then distributed based on performance across all airlines and airports, with the poorest performers receiving 1 star.

Some of North America's largest airport hubs also earned high marks in OTP Star Rating, with Salt Lake City International Airport earning an impressive 5 stars for an 85.2 percent on-time performance. Atlanta's Hartsfield-Jackson International Airport (82.9 percent), Detroit Metropolitan Airport (83.1 percent), Charlotte Douglas International Airport (82.2 percent) and Minneapolis St. Paul International Airport (85.1 percent) all performed strongly for airports of their size. In fact, Minneapolis narrowly missed out on becoming the largest North American airport to earn 5 stars.

"Today's travelers are evaluating their air travel options through a variety of considerations, and punctuality is increasingly becoming a deciding factor," said John Grant, senior analyst at OAG. "On-time performance is viewed as an indicator to judge the quality of an airline or airport. As a result, many airlines and airports continue to track this critical metric and invest to optimize operations and improve their performance."

The OTP Star Ratings are measured on the basis of a rolling 12-month period – and awarded twice a year in April and October. To achieve an OTP star rating, the world's airlines and airports must meet two simple criteria: all airlines and airports must have a minimum of 600 operations a month and OAG must receive flight status information for no less than 80 percent of scheduled flights within the 12-month period.

IATA Holds First Annual Aviation Data Symposium

The International Air Transport Association (IATA) held its first annual Aviation Data Symposium (ADS) in Miami this November.

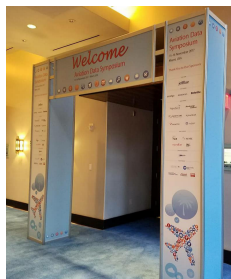
The event brought together more than 400 delegates from airlines, airports and technology providers to discuss how to unlock the value of big data in order to improve safety, security and profitability within aviation.

"Big data is transforming our industry," said Charles de Gheldere, director, travel intelligence, IATA. "New aircrafts are basically data centers, generating terabytes of data; passengers are connected with their watches, with their phones and other devices -- there are sensors everywhere. Artificial intelligence is here, machine learning is here."

"Data-driven organizations will take this industry to the next level. The sky is the limit."

Representatives from airlines, airports and even data-driven companies outside of the aviation industry were on hand to discuss topics broken into four educational tracks – technology, safety and operations, passenger distribution and sales and airfreight data.

IATA announced it would hold another ADS in 2018. The second annual event will take place June 27–28 in Berlin.



inter airport Europe 2017 Closes with a Record Visitor Number

The 21st edition of inter airport Europe ended with a record visitor number. During the four exhibition days, a total of 13,854 trade visitors from 110 countries came to the Munich Trade Fair Centre in Germany to discover the latest trends in the airport industry and source innovative equipment and systems. This represents a 9 percent increase in visitor numbers compared to the previous show in 2015.

"This very successful event once more reflects the current dynamic development of the airport industry. The airport of the future provides enormous potential for suppliers of equipment, technology, services and solutions; and the digitalization and automation offers new opportunities for airport operators. At inter airport Europe 2017, visitors were able to see for themselves that the networked airport will soon be a reality. Driverless vehicles, automated baggage handling, highly developed systems and air traffic control – all these latest developments were presented by the exhibitors at this year's show. We would like to thank all exhibitors and visitors for his highly successful edition of inter airport Europe," said Nicola Hamann, managing director of the organizers of inter airport Europe, Mack Brooks Exhibitions.

The next inter airport Europe, the 22nd international exhibition for airport equipment, technology, design and services, will take place from Oct. 8–11, 2019, at the Munich Trade Fair Centre in Germany.

► PEOPLE

Murray Equipment Announces Transition to Third Generation

Murray Equipment, Inc. (MEI), the parent company of Total Control Systems and KlearBlue Solutions, has announced that Dan Murray has been named president effective immediately. Former president Steve Murray will stay on board and

focus his efforts on KlearBlue -- Murray Equipment's DEF storage, dispensing and manufacturing systems brand.

This transition marks three generations of Murray leadership. Dan Murray has been responsible for the growth in the Total Control Systems brand, and since becoming vice-president has taken more responsibility in MEI's other areas. His current role will see him overseeing Murray Equipment, Inc., Total Control Systems, and KlearBlue Solutions.

"Our customers were the primary factor in planning this transition. We didn't want them to face any of the disruptions that sometimes come with changes in leadership/ownership," explained Steve Murray. "Dan understands and has been instrumental in developing the 'Murray Way' of doing business. I am very confident the future of Murray is bright."

Malaysia Airlines Names New CEO

Malaysia Airlines has appointed Izham Ismail as group chief executive officer designate.

He replaces Peter Bellew, who resigned to join Ryanair. Bellew replaced Christoph Mueller and spent a little more than a year on the job.

Izham has served as chief operating officer since last November.

► NEW DEALS

Lufthansa Cargo and Fraport Ground Services Extend Contract

Lufthansa Cargo AG and Fraport AG Ground Services have signed a contract to extend their ground handling partnership



www.timsan-gse.com
timsan@timsantr.com
 +90 216 527 42 70

TIMSAN



CT 5800



KL11000



AT 5800

AviationPros.com/10017842

at Frankfurt Airport. The agreement has a term of eight years and runs from January 2018 to December 2025.

"We are very pleased that Lufthansa Cargo has decided to continue its successful collaboration with Fraport Ground Services. The agreement underlines the close and longstanding relationship between Fraport and our partner and customer Lufthansa Cargo here at Frankfurt Airport," said Michael Müller, member of the Executive Board and Executive Director of Labor Relations for Fraport AG, at the signing of the agreement.

"For Lufthansa Cargo, the signing of the new agreement for ground services signifies a continuation of the successful system partnership with Fraport in this area for many decades. It also ensures the reliable and high-quality ground-handling of our freighter fleet at Frankfurt

Airport as we move into the future," stated Sören Stark, Board Member Operations at Lufthansa Cargo AG.

The new agreement covers aircraft ground handling, particularly the loading and unloading of all freighter aircraft belonging to Lufthansa Cargo. Transportation of cargo to and from the aircraft on the airport grounds is also part of the agreement. The Lufthansa Cargo fleet consists of state-of-the-art Boeing B 777 and MD-11 aircraft. Lufthansa Cargo has the highest cargo volumes of all airlines at Frankfurt Airport.

WFS Secures Five Cargo Handling Contracts in France

Worldwide Flight Services (WFS) has been awarded five new cargo handling contracts by passenger and freighter air-

lines in France. Four of the contracts cover Paris CDG as well as handling at WFS' other 11 cargo stations across France.

Vietnam Airlines has renewed its cargo handling agreement with WFS, while CAL Cargo Airlines has appointed WFS to provide receiving points for cargo which is then trucked to Belgium to connect with its Boeing 747 freighter services ex Liege. WFS has also won contracts for the whole of France from the Moldovan airline FlyONE for freight carried onboard its weekly Airbus A319/320 flights to Chisinau International Airport as well as from the Italian carrier, Meridiana.

Air France has also chosen WFS as its cargo handling partner at three airports in France; Lyon, Toulouse and Nantes.



Simple Complexity



GLOBAL
GROUND SUPPORT

540 East 56 Highway • Olathe, KS 66062
globalgroundsupport.com • 913.780.0300

MIDAS is a telemetry system that allows anyone with approved access to view live data on any of their deicing trucks with any Internet-connected device. This advanced telemetry system can be purchased on new vehicles or retrofitted on any manufacturers' equipment. MIDAS monitors performance, location, surface areas, aircraft ID's, operators and more.

MIDAS
TELEMETRY



AviationPros.com/10017340

Stephane Scholving, WFS' Director of Cargo Sales Europe, said: "These contracts reflect the size and diversity of our cargo operation across France. We are proud to be increasing WFS' relationship with Air France and to be the preferred handling partner of all-cargo and passenger airlines from Vietnam, Israel, Moldova and Italy. Our highly experienced cargo teams across all of our French stations will ensure we provide the quality of service as well as the high standards of safety and security each of our new customers needs to support the growth of their businesses."

Swissport Signs Agreement to Acquire Aerocare

Swissport International announced it has signed an agreement to acquire Aerocare and enter into the growing Australasian market.

As the largest ground handler in Australia and New Zealand and the regional leader in flight support services, Aerocare currently serves 36 airports and manages more than 160,000 flights and 15 million passengers annually.

"Aerocare has an impressive track record and is the market leader in a region where we anticipate continued growth in the coming years. It perfectly complements our strategic priorities for growth and operational excellence, and we are delighted to have the Aerocare team joining Swissport," said Eric Born, president and CEO of Swissport.

"We are very excited to become part of the Swissport Group. We have devoted a lot of time and effort into building a safety- and customer-focused business,

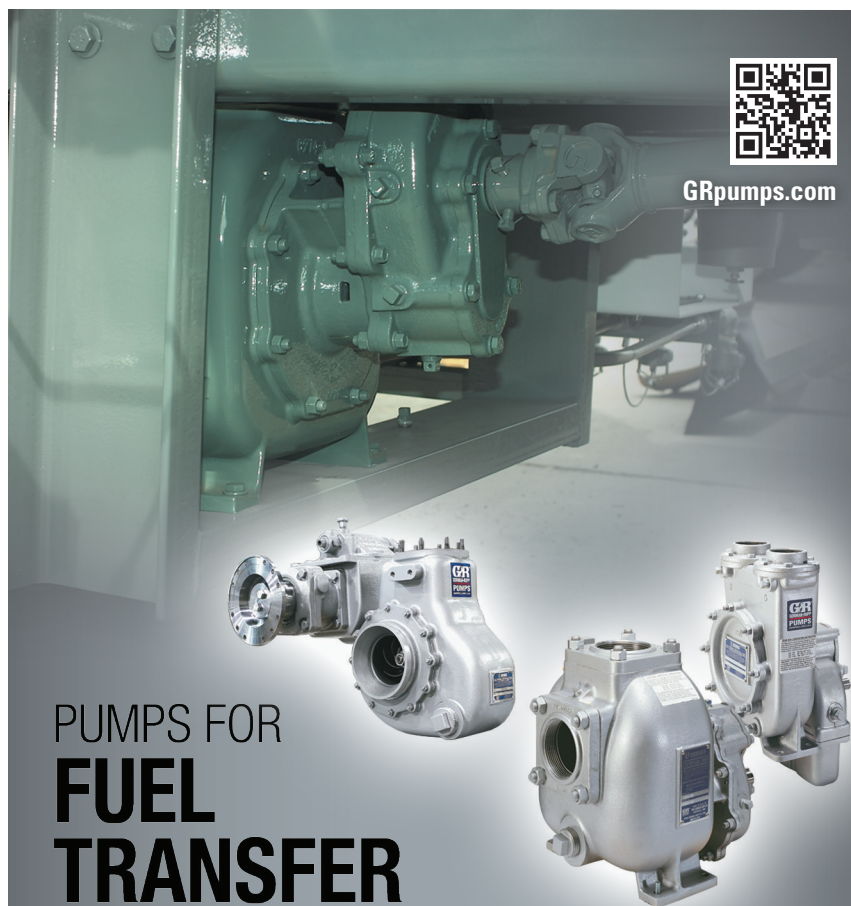
sharing the same high values as Swissport," added Glenn Rutherford, CEO of Aerocare. "I want to thank all of our staff for their continued efforts as we enter this exciting new phase."

Following the closing of the acqui-

sition, Swissport will invest to further grow and enhance Aerocare's operations and employee base, and Aerocare's management team will continue to lead the Aerocare business from its Australian headquarters.



GRpumps.com



PUMPS FOR FUEL TRANSFER

AVIATION REFUELING TRUCKS ■ GROUND SUPPORT FUELING STATIONS

Gorman-Rupp has been a part of accelerated aircraft fueling and defueling for over 50 years. We have been able to keep pace with technology and design in this ever-changing world of faster, more complex aircraft.

Our original designs have set the standard around the world with thousands of units operating in the field for virtually all major airline and fuel suppliers.

We offer a complete line of ground service pumps and related equipment, consisting of standard centrifugal and self-priming pump models, directional valves, educators and a host of other piping accessories.

Contact Gorman-Rupp today to see how we can fulfill all of your aviation fueling needs.

GORMAN-RUPP PUMPS

P.O. Box 1217 ■ Mansfield, Ohio 44901

PH: 419.755.1011 ■ FX: 419.755.1251 ■ grsales@gormanrupp.com

502 © Copyright, The Gorman-Rupp Company, 2016
Gorman-Rupp Pumps USA is an ISO 9001:2008 and an ISO 14001:2004 Registered Company

GR
GORMAN-RUPP
PUMPS

The Pump People®

AviationPros.com/10208885



Hong Kong Airlines and Hong Kong Air Cargo Carrier Commences Cargo Handling at AAT

Following an earlier announcement that Hong Kong Airlines and its cargo subsidiary Hong Kong Air Cargo Carrier would move their cargo operations to Asia

Airfreight Terminal (AAT), AAT has confirmed that the move was completed on Nov. 8, 2017. The cargo for both airlines is now handled by AAT.

The addition of Hong Kong Airlines and Hong Kong Air Cargo Carrier to the AAT family will contribute significantly to the scale of AAT operations.

"We are proud to finally welcome Hong Kong Airlines and Hong Kong Air Cargo Carrier to our terminal," Kuah Boon Kiam, general manager for AAT, said. "They are the second biggest airline group in Hong Kong and in anticipation of their arrival, we have upgraded our facilities, manpower and equipment in order to better meet their requirements as a hub carrier. We are confident that AAT can serve as a strong and reliable partner for them to further grow their airfreight business out of Hong Kong, the world's busiest cargo airport."



Accepting Nominations

Product/Service Award

This award celebrates the products, services and manufacturers making a difference in the industry.

Winner will be featured in the March issue of *Ground Support Worldwide* magazine.

Nomination Deadline: January 12, 2018

Nomination Form,
visit: <http://bit.ly/2i5ejm7>

**Ground
Support**
WORLDWIDE

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

Team Leader Award

This award will go to an individual who has taken a leadership role with personnel.

Winner will be featured in the April issue of *Ground Support Worldwide* magazine.

Nomination Deadline: February 9, 2018

Nomination Form,
visit: <http://bit.ly/2hdaxHM>

Lifetime Achievement Award

This award will go to a person who has demonstrated commitment to the industry through numerous years of dedicated service.

Winner will be featured in the May issue of *Ground Support Worldwide* magazine.

Nomination Deadline: March 16, 2018

Nomination Form,
visit: <http://bit.ly/2yLBrAv>



SATS, AirAsia Partner to Grow Ground Handling Across Asean Region

SATS Ltd and low-cost carrier AirAsia Berhad formalized a ground handling partnership in the Asean region.

SATS has formed a new ground handling entity, SATS Ground Services Singapore Pte Ltd (SGSS) to serve customers



at Changi Airport's new Terminal 4. Under the terms of the partnership, SATS will acquire a 50 percent interest in Ground Team Red Holdings Sdn Bhd (GTRH) in exchange for SATS' 80 percent stake in SGSS and aggregate cash consideration of SGD119.3 million (approximately MYR 372.2 million).

GTRH will be renamed SATS Ground Team Red Holdings Sdn Bhd, which will be the 50:50 joint investment vehicle of AirAsia and SATS that will hold stakes in both its Malaysia and Singapore subsidiaries, Ground Team Red Sdn Bhd (GTR) and SGSS respectively. AirAsia will effectively own 51 percent of GTR and 40 percent of SGSS while SATS will effectively own 49 percent of 2 GTR and 60 percent of SGSS.

Both companies will also be responsible for growing the ground handling business in their respective markets and will explore expansion into Indonesia, the Philippines and Thailand in the near future.

Tronair, Inc. Announces Acquisition of Malabar and DAE

Tronair, Inc., a portfolio company of Golden Gate Capital, announced the acquisition of Malabar and DAE, collectively Malabar Holding Company. Financial terms of the transaction were not disclosed.

From its founding in 1935, Malabar has been a key supplier of ground support and maintenance equipment for commercial and military aircraft.

Malabar's primary business has been aircraft jacks, including axle jacks for changing aircraft wheels and tires and tripod jacks for in-hangar service of narrow-body and wide-body aircraft.



Today, Malabar sells product in over 60 countries around the world and the product line has expanded to include B787 and A350 coolant service carts, hundreds of different types of fluid dispensers, test stands, weigh equipment, strut service equipment, nitrogen/oxygen equipment, wheel/brake equipment, engine stands as well as the spares, service and replacement parts associated with each product line.

"With the acquisition of Malabar, Tronair continues to add products that enhance our value to a broad base of global aerospace customers. Malabar has done a wonderful job of building its brand and sterling reputation, and we look forward to continuing the legacy," Harley Kaplan, president and CEO of Tronair, said.

"We are excited to join the Tronair team and bring together these storied aerospace brands. The combination of Tronair's existing brands with Malabar and DAE represents an aerospace ground support powerhouse," Chris Advani, President and CEO of Malabar, added.

Revolutionizing GSE leasing and asset management.



Looking for ways to make doing business easier and more profitable? Then you'll want to take a closer look at Xcēd.

Xcēd Aviation Services is a single source provider of flexible GSE financing and customized asset management services, including:

- Single investor financing
- Short- and long-term lease financing
- Short- and long-term rentals
- Used GSE trade-ins
- Sale and leaseback
- Buying and selling inventory
- Equipment refurbishment
- Refurbishment financing

We're also experts at uncovering hidden assets, which allows us to provide a wide range of incremental asset management service... services most banks and other lessors simply can't or won't offer.

XCED

AVIATION SERVICES

A Sasser Family Holdings Company

www.xcedaviation.com

425 North Martingale Road,
8th floor
Schaumburg, Illinois 60173
844.213.9233
solutions@xcedaviation.com

Now Servicing the
U.S. and Canada.

AviationPros.com/11535271



Retention on the Ramp

Employee turnover within the ground handling market is an issue faced by many. What steps can be taken to prompt ramp agents to stay?

By Josh Smith

The rate of employee turnover within ground handling operations varies widely, depending on several factors, including regional location and salary.

While the annual percentage of turnover for ground service operations can range from less than 5 percent to more than 90 percent, the fact remains that employees entering and exiting the job market have a tremendous impact on the ground handling world.

This issue was investigated by a panel of industry veterans during the IATA Ground Handling Conference (IGHC) in Bangkok, Thailand, this past spring.

Jon Conway, director general of the Airport Services Association (ASA), moderated the panel. He noted the industry employs approximately 1 million people, globally, with a handful of major ground handling organizations accounting for a couple hundred thousand.



When a person leaves an operation, that employee must be replaced. Of course, the new employee must be recruited and then properly trained. So when turnover is frequent, the associated costs increase exponentially. Additionally, with training resetting with each new employee, safety becomes an issue as well.

"So we have an issue, potentially, some quite serious issues in certain parts of the world," Conway says. "I think we'd all agree the potential impact on safety, training and just experience is becoming a challenge to manage."

The Foundation for Turnover

The panel of speakers at the IGHC attempted to identify the main culprits associated with employee turnover within the ground handling industry.

Ingrid Braeuninger, VP of sales and business development at Airport Terminal Services (ATS) pointed to environmental reasons such as economic factors, and the way businesses embrace and develop talent.

"I think what any company would focus on in times like this, is how do you differentiate yourself and become an employer of choice," she says.

Braeuninger noted that due to economic factors, the market of employees has been constricted, and often times several industries are competing for the same people to fill open positions.

"There's a lot of other companies and industries that aren't as exciting as the aviation workforce. So I think we have something to differentiate from other industries that are looking for that entry- and mid-

level employee," she adds.

Mark Edwards, CEO at dnata Singapore, added there is not a singular item creating staff turnover issues.

He noted his operation faces government restrictions that penalize employment of foreign workforces, as an example. That, in turn, limits the pool of possible employees.

Furthermore, the success of Singapore's education system depletes the number of available candidates as well, as new members of the workforce are seeking to apply their training in other fields.

Even when young employees do pursue ground handling, Edwards noted those workers are likely to move on quickly if they do not like the work.

"We've got a very age-related issue," Edwards says, adding dnata attempts to

label the job appropriately, so that by the time someone accepts a position, they are aware of all requirements.

What it boils down to is identifying the right person for the type of work – someone who is capable of handling second or third shift and working in varying weather conditions.

“There’s nothing particularly appealing, when you’re young, to take a job that’s not the best paid; that you get up at 2 a.m. in the morning to get ready to come to work for a 4 o’clock shift to be faced by seas of people, most of them not very happy because they don’t want to be there at 4 o’clock in the morning either,” Paul Craig, managing director of Aviance Ghana agrees. “I think that’s the big question. How do you get over that?”

The panel members noted that while turnover can be frequent, if a ground han-

dling agent gets through the probation period, employee retention figures drastically improve.

Interestingly, frequent turnover isn’t always the problem. For example, Craig explained Africa’s unemployment rate has prompted people with jobs to hold on to their positions as long as possible.

“For every job you want to fill, you could actually get a thousand people fighting for it,” he says. “Our problem is that people don’t move at all. They take the job, and they stay.

“What you do face is an aging workforce, who no longer work at the same rate as they used to work in their younger years.”

Solutions to be Sought

Although some factors are out of an employer’s control, the panel participants agreed there are steps that can be taken to improve



the employment landscape.

Braeuninger of ATS said ground handlers sell to the airlines and therefore drive wages, but she emphasized a company must find a balance between setting a price-range and attracting quality people. She noted it is important to think beyond increasing wages, which led her company to change its recruiting process.

She added it’s important to show potential employees everything that is required of them – both the good and the bad, even



Worldwide Leader in Aircraft Refuelers



Ask About Our Leasing & Rental Options



913-653-8100



skymarkrefuelers.com



sales@skymarkrefuelers.com

AviationPros.com/11174155

though that might reduce the number of total candidates.

"We don't want to waste money training and developing someone who's going to be gone in 30 to 60 days," she says.

What's more, training someone who will immediately leave is a potential safety threat in addition to the wasted money and resources.

"What we need to do is widen the funnel, so to speak, the pipeline of potential recruits, and continue to scour new areas and new channels for bringing in employees," Braeuninger says. "So yes, we absolutely want to show them, 'this is what the real job is about - and it's quite exciting if that's what you're cutout for.'"

"I think one of the problems we face is the 24-hour operation," dnata's Edwards adds. "Fundamentally, I've found over the years that some people are suited to shift work and some just aren't.

"It does take a particular person."

With so many ground services outsourced, the industry needs to raise awareness about ground handling companies, too. Many people in North America believe airlines exclusively provide ground handling services, so they may be seeking employment in the wrong places.

Once a person is hired and put into position, it also may be worthwhile to speak with that employee regularly to ensure they are comfortable in their position. Employers can treat these "retention surveys" in a similar fashion as exit interviews that are conducted when someone resigns.

A retention survey can gather key information. Beyond wage, an employee may be unhappy with the work environment, a boss or co-worker or several other factors.

"We are definitely engaging more with our staff on a regular basis," Edwards says, adding his company has sought advice for working with a younger generation of employees. "So far, there has been some very small improvement in retention amongst that group of people."

Though it may be easier said than done, it is important for ground handling companies not to lose sight of the bigger picture. While it is vital to do what's right for the employees, the best decisions must be made for the company as a whole.

Like many other businesses, ground handling companies are tasked with making themselves an attractive employer, being efficient and thorough with training and continuing to develop and retain people.

However, accomplishing these feats is not a simple undertaking. Finding the solution to employee turnover on the ramp requires a holistic view of an operation. **GSW**



INDUSTRY-LEADING WIRELESS HEADSETS TRUSTED SOLUTIONS AND SERVICE

When shaving off seconds on the ramp means saving millions of dollars, you can't afford downtime.

Flightcom partners with our customers to ensure that the wireless communication solutions you depend on are ready and working when you need them.



Partner with Flightcom at
flightcom.net/ground-support

1.877.929.4569 | 1.503.684.8229

flightcom.net

AviationPros.com/10017282


TAKE A BUSINESS

APP

TO

SAFETY





ROACH ETY

By Josh Smith

Safety needs to be the top priority in aviation, whether in the air or on the ground.

Implementing an SMS provides an operation with structure to help ensure best practices are achieved.

When it comes to ground support operations, there are safety initiatives to help protect the people working on the ramp.

Recently, the National Air Transportation Association held its inaugural Ground Handling Safety Symposium (GHSS) in Washington, D.C. The event allowed members of the industry to exchange ideas and share best practices for keeping ground operations safe.

During the GHSS, Sunshine McCarthy, vice president of business development and education at Baldwin Safety and Compliance, provided an overview of Safety Management Systems (SMS). The purpose of an SMS is to take a business approach to safety in order to identify hazards and mitigate them as much as possible before accidents occur.

"It's a systematic approach to how you manage safety," McCarthy says. "It has all the things that you would expect. It has accountabilities, it has organizational structure and, of course, it has policies and procedures."

An important element of an SMS is, unlike older safety programs, there is not one person in charge of safety. Rather, an SMS requires responsibility from all members of an operation. McCarthy explains this attitude has to come from the top of an organization.

"You've got to have resources and support from the very, very top of the operation in order to have an SMS in place," she says, noting that changing the culture around safety can lead to predicting and preventing dangerous situations.

SMS takes what a ground support team is already doing in regards to safety and

provides additional organization around it.

"It's not to say you're operating an unsafe operation today. It just gives you some structure," McCarthy explains.

Pillars of Safety

According to McCarthy, there are four pillars that support an SMS:

- Safety policy
- Safety risk management
- Safety assurance
- Safety promotion

Safety policy provides a statement explaining accountability for safety. A company creates an SMS manual with an outline of objectives as well as an emergency response plan. The safety policy should also identify key personnel designated to lead safety initiatives.

Because hazards always exist on the ramp, safety risk management is designed

to identify underlying causes of dangers. Employees are often relied to report these matters. By having a safety reporting system in place, workers on the ramp can report small issues before they become larger threats to safety. Once a report is filed, it allows an operation to assess the risk and take steps to eliminate dangerous practices.

Safety assurance allows an organization to monitor steps put into place to ensure those measures work effectively. This may include performing an internal audit of operations and managing changes put into place to discover any potential safety implications.

Safety promotion is training and educating employees so that safety goals are clearly defined. Safety promotion is an ongoing process, requiring periodic SMS training for all team members.

"Those pillars all make up your culture,"



TRULINK® WIRELESS INTERCOMMUNICATIONS SYSTEM

Clear and reliable wireless communications even in challenging, high-ambient noise environments, increasing operational safety and intelligibility.

To learn more, visit www.telephonics.com



© Telephonics | www.telephonics.com

AviationPros.com/12014696

McCarthy says.

She emphasizes that the pillars of an SMS are not linear, meaning they are not achieved one after the other.

"All the pillars and their elements all touch each other," McCarthy says. "It's very similar to how your operations work. All your departments touch each other. All your employees work together. You can't have one without the other."

"That's what an SMS is – it's a system."

IS-BAH Certification

In business aviation, an operation looking to establish an SMS can pursue International Standard for Business Aircraft Handlers (IS-BAH) certification

The International Civil Aviation Organization (ICAO) created standards and best practices, focusing initially on commercial airlines. From there, the Interna-



**GLOBAL SUPPLIER OF
NEW AND REFURBISHED
AIRCRAFT REFUELING EQUIPMENT**



📍 2679 S US Highway 23 Alvada, OH 44802 ☎ + 1 419-436-6008

🌐 www.profloind.com - www.proflolatam.com

AviationPros.com/12070958

tional Business Aviation Council (IBAC) – a group under the ICAO purview, developed best practices and standards for business aviation. This included collaborating with NATA on ground handling safety measures outlined by the IS-BAH program.

There are three stages of certification in the IS-BAH program. Stage I certifies a safety structure has been put into place and is confirmed through an external audit. Stage II certification demonstrates an organization's SMS is fully functioning. And Stage III proves a just culture and commitment to a strong safety environment.



"It takes a couple of years between each of one of these stages," McCarthy explains. "It's not something that happens overnight. It takes time, as it should, because it does take time, work, energy and resources in order to be fully functioning."

She explains regulators were trying to find a way to oversee the numerous business aviation operations that exist. They decided that if an organization was managing its own safety, and could show how they were doing it, that would provide appropriate oversight.

▶ EVERYONE PLAYS A ROLE

An SMS is a great way for an individual operation to keep the ramp safe. But in larger environments, teamwork may be necessary to keep all parties involved safe. The WE ARE SAFETY campaign aims to accomplish this.

Officials at WE ARE SAFETY, including Adam Simonson, head of field operations compliance, UK and Ireland at gategroup, describe the campaign as a non-profit safety culture and awareness brand that promotes the power of partnership.

The brand was founded by industry professionals in 2016 and has since been adopted by airlines, airports and ground handling agents.

The brand uses the slogan "An Awareness That Runs Through Us All," to emphasize how safety is an aspect of every department within aviation.

"WE ARE SAFETY aims to extend the concepts of Crew Resource Management beyond the aircraft and on to the ramp and other ground support operating areas," say brand officials, adding the program can help break down traditional cross-organizational barriers faced in the industry and facilitate teamwork to achieve common goals.

Officials stress that a singular organization within ground operations cannot succeed on its own due to the numerous complexities. However, bringing together all stakeholders under the WE ARE SAFETY campaign can remove organizational silos often found in airside operations.

WE ARE SAFETY officials seek to:

- Enhance safety performance on the ramp by promoting a partnership approach.
- Make connections that would

otherwise not be possible, so that cross-organizational teams can work on common challenges and share common solutions.

- Create shared safety material for the industry.

The campaign's safety material only features the WE ARE SAFETY logo and branding, so it can be used by any organization. Material will include alerts, good practices, learnings, notable news and other safety related publications relevant to industry, officials say.

easyJet has embraced the partnership mantra of WE ARE SAFETY:

"easyJet firmly believes in delivering a collaborative safety message and working with gategroup. We have further developed a safety brand that will join key organizations in promoting clear, consistent safety messaging," says Dave Cross, corporate ground operations, quality and safety manager for easyJet. "Every Crew room is littered with mixed safety posters and inconsistent messaging from different organizations. WE ARE SAFETY has allowed us to reduce the background noise and focus on the most crucial messages."

"Luton Airport and Aurigny Air Services have also adopted the brand and have produced campaigns using WE ARE SAFETY," he continues. "As an airline, we have also ensured that all of our ground handling providers are included to demonstrate that when it comes to safety, all commercial considerations should be put aside in the interest of truly working together."

Cross adds that easyJet is happy to share these campaigns with everyone and is actively endorsing 'WE ARE SAFETY' through the United Kingdom's Civil Aviation Authority (CAA) Ground Handling Operations Safety Team (GHOST) forum.

IS-BAH certification can be beneficial to an operation beyond providing a safer work environment. Business can increase as operators are often looking for IS-BAH certified locations to ensure their aircraft will be handled safely on the ground.

"It clearly documents your approach to safety, so you can explain it to others," McCarthy says. "It gives you control over what's an acceptable level of risk for your operation. What may be acceptable for your operation, may not be acceptable for another one – or vice versa.

"You can demonstrate control to regulators, to shareholders and to customers."

Other SMS and IS-BAH benefits can include decreased insurance costs and improved employee satisfaction.

But most importantly, it helps prevent incidents, injuries and damage to equipment.

SMS Requirements

SMS is required for commercial airlines, but it is not actually required for business aviation, McCarthy explains.

"However, what has happened is our industry has embraced it. And because the industry embraced it, the bar was raised," she says. "For flight operations, if you don't have an SMS today, you're really at risk. If something were to happen, what would come out is that you weren't even living up to industry standards."

The bar for ground handling is being raised too, where more and more operators and FBOs are becoming IS-BAH registered and establishing an SMS. McCarthy adds that some insurance companies are giving incentives for their operators to have an SMS in place in an effort to reduce the rate of accidents, damage or injuries.

The IS-BAH program is growing with nearly 80 locations worldwide certified – and a handful have already completed Stage II.

McCarthy encouraged attendees of NATA's GHSS to continuously work at safety culture, stressing the importance of evolving with new safety practices.

Installing an SMS is an opportunity to change a company's culture and attitude toward safety. [GSW](#)

FIND MORE SAFETY ARTICLES ONLINE

Best Practices for Airfield Vehicle Markings: AviationPros.com/12382540

Preventing Industrial "Blind Spot" Accidents with Safety Mirrors: AviationPros.com/12378996



WHAT'S IN A NAME?

OVER 156 YEARS OF COMBINED
GROUND SUPPORT EXPERIENCE.
AND A LEGACY OF INNOVATION,
SERVICE AND SUPPORT THAT
KEEPS THE WORLD MOVING.

TEXTRON 
GROUND SUPPORT EQUIPMENT
Pushing Forward

©2016 TUG Technologies Corporation. All rights reserved.

DOUGLAS > TUG > PREMIER > SAFEAERO

AviationPros.com/10208885

How Japan is Using Technology to Support Baggage Handlers

Officials at CYBERDYNE have created robotic suits that reduce physical strain in order to improve working conditions on the ramp.

By Mario Pierobon

Japan is one of the most technologically advanced countries in the world, as well as a leader in technological solutions that help improve line operatives' well-being on the ramp, especially when loading bags, thanks to technological innovations developed in Japan that are making their way into the aircraft ground handling environment.

Robotic suits, mounted to employees' waists, are being used by baggage handlers in Japan to assist with manual labor.

The Hybrid Assistive Limb (HAL) Lumbar Type for Labor Support, developed by CYBER-

DYNE Inc. of Japan, is a lightweight and compact device that weighs approximately 6½ pounds and provides support to help avoid back strains and other injuries.

"HAL Lumbar Type for Labor Support mitigates risks of the wearer's back pain when he or she lifts heavy goods, reducing stress applied on the lumbar region by up to 40 percent," says Prof. Yoshiyuki Sankai, CEO of CYBERDYNE. "This is achieved by reading the bio-electric signals. The device assists a wearer's movement according to his or her intention and reduces stress applied on the lumbar region. We can increase the assistance



Photo courtesy of CYBERDYNE Inc.

ratio, which depends on soft limiter settings, if needed in the future.”

A Solution for an Aging Workforce

Japan is experiencing a ‘super aging’ society, with a trend of population aging coupled with falling birth rates envisaged to accelerate. This indicates a decline in the proportion of people of working age, while life expectancy continues to increase.

“HAL, which enables the wearer’s bodily functions to be supported and enhanced, can contribute to stopping the shrink of Japan’s workforce in some industries, including the aircraft ground handling industry,” says Prof. Sankai. “It seems that, considering possible labor shortages in the near future, ground handling com-

brain to the muscles through the nervous system, and these signals leak onto the skin surface as bio-electric signals,” explains Prof. Sankai. “HAL detects and analyzes these signals and generates power assist torque with its motor to assist the wearer’s

intended movement.

“Frames of HAL lumbar type are fixed to the wearer’s body with moulded fastening equipment of lumbar and thigh. Lumbar mould assumes the role to limit movement of lumbar vertebrae. Power units are directly

HAL Lumbar Type
for Labor Support
mitigates risks of the
wearer’s back pain
when he or she lifts
heavy goods, **reducing**
stress applied on the
lumbar region by **up to**
40 percent.

— Prof. Yoshiyuki Sankai,
CEO of CYBERDYNE

panies would like to protect their existing workforce by mitigating the risk of back pain. This also leads to improvement in the work environment that would attract new workers.”

How it Works

The HAL device is utilized to improve the work environment and to prevent work related injuries. The device works to reduce physical effort by means of specifically developed technology.

“When a wearer intends to move his or her body, various signals are sent from the

It's a Gift that
Keeps on Giving!

Receive the latest news, trends and products delivered daily to your inbox by signing-up for a **complimentary subscription** to the *Ground Support Worldwide Daily Newsletter*.

New for 2018, *Ground Support Worldwide* is featuring the **Product and Equipment Weekly** on Wednesdays and the **Technology Report** on Fridays.

Take advantage of this special offer exclusively for Ground Support Worldwide magazine subscribers!

Sign-up today by visiting: www.AviationPros.com/reg/newsletter

attached on both hip joints of the HAL to support the hip flexion and extension movement. The actuators' torque is transmitted from the HAL to the wearer's body through the mould fastening equipment."

Business Case

It can be expected that innovative solutions, such as the HAL, would require a business case for operations managers to make to the headquarters to justify investing in such type of technologies. Indeed, it might well be the case that sophisticated technologies require a certain amount of investment, which top management might be willing to make only provided that the likes of costs and benefits analysis are performed and possible returns on investment compounded.

"There is currently no extended quantitative investigation that shows potential return on investment on our technologies, but it is reported that this device allows the workers including female and/or aged workers, and workers with back pain, to work for longer hours without fatigue," says Prof. Sanakai.

"In addition, we do have a report conducted by the Kanagawa Prefecture in Japan which investigated its usage of HAL Lumbar Type for Care Support, which is similar to HAL Lumbar Type Labor Support but uses different algorithms to fit the tasks in care facilities. According to this survey, over 80

percent of the care workers who used HAL noticed the decrease of their fatigue and over 80 percent of the facilities had a reduced turnover rate."

In addition to ground handling, post office mail and parcel handling, construction and agriculture are all industries which could benefit from the implementation of HAL.

From Japan to the World

For now, HAL Lumbar Type is only available in Japan.

"The All Nippon Airways (ANA) group commenced the verification trials of HAL Lumbar Type for Labor Support in November 2016, and confirmed the effect of HAL to reduce the workload in the baggage handling tasks at Narita Airport," says Prof. Sanakai. "Following this result, ANA determined to accelerate the verification by implementing additional units of HAL in April 2017.

"As HAL is capable of reducing the stress applied on the lower back areas upon lifting or transporting heavy weight, it makes

workers' tasks easier, and also reduces the risk of back injuries. Our technologies can help the ANA group to reduce the workload and improve the productivity in order to structure a work environment attractive for all of its workers."

The device is also used at Haneda Airport Limousine Bus Terminal by Airport Transport Service Co., Ltd. Staff members of Limousine Bus utilize HAL for Labor Support to handle customers' luggage, the number and weight of which is limited to two pieces per customer and approximately 66 pounds per luggage, as well as to assist customers in wheelchairs.

Starting with the Tokyo International Airport, CYBERDYNE aims to promote the introduction of the device to other Limousine Bus terminals such as Narita Airport.

"We are still gathering feedbacks from our users so that we can apply further upgrades to the device," says Prof. Sanakai. "Once the product reaches this point, we will start marketing HAL Lumbar Type overseas." **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 mariopbrn@gmail.com.

RUGGED. DURABLE. HARLAN.

www.harlan-corp.com
+1-800-255-4262
sales@harlan-corp.com



- ✓ Our **LOW PROFILE** design is easier to get on and off for drivers and passengers.
- ✓ Better **TURNING** radius due to a new Steer Axle design and shorter wheelbase.
- ✓ Fleet **UNIFORMITY**, get Gas, Diesel or Lithium-Battery all in the same frame design.
- ✓ Better **STABILITY** and ride comfort with a lower center of gravity as well as coil springs and shocks in the rear.

**Flex diesels still available
– order soon!**

As a manufacturer of our own parts and components, we have the ability to customize parts as well as support parts beyond standard expected part life in the industry.

AviationPros.com/10017401

▶ HAINAN BUILDS ON NORTH AMERICAN SUCCESS

By Joe Petrie

Hainan Airlines is one of several Chinese carriers expanding its footprint in North America as demand for connectivity with Asia grows. The airline expanded into Las Vegas in 2017 and launched flights from John F. Kennedy International Airport (JFK) to Chongqing and Chengdu.

Liang Pubin managing director, Hainan Airlines North America, recently chatted with AviationPros.com to talk about the airline's vision in North America and what it sees for the future.

AviationPros: How are you approaching expansion into North America?

Liang Pubin: The market in North America, there is potential, that's for sure. Carriers believe there are a lot of potential markets now and in the following years. Our approach to North America is try to pursue any market that's underserved. The traditional carriers all focused on the traditional gateways, but the market continues to grow and a lot of opportunities have shown up. We found there are cities that are underserved, like Seattle, where we started service in 2008; Boston, where we started service in 2015 and San Jose and even Las Vegas. Toronto and Calgary are also examples. Actually, Delta has even been following our path.

AVP: When you say underserved markets, are you looking at it from where inbound traffic from China and where they want to go here, or are you more focused on where North American travelers want to go in China?

LP: Both. We have to study both markets to see the demand. China definitely is important, but the U.S. part is of the same importance. There's no route that can be successful by the passenger contribution from one direction.

AVP: So what are the most demanded markets by both U.S. and Chinese travelers then? Is it more business or leisure destinations?

LP: This market is a business strong

market. Tourism has been a key factor that supports the growth. When the Visa policy was relieved in 2012, that helped drive the tourists between the two markets, especially the growth from China. But, the business oriented market is still strong. In addition to the corporate travelers, the students are also quite a strong market between the U.S. and China. While it's a business strong market, the other sectors are growing very fast.

AVP: Are there any specific markets in the U.S. or Canada you see demand now to add flights to China that are not currently served?

LP: We have been keeping a close eye on potential opportunities and so far we haven't decided to issue any new destinations, but this is constant work for us.

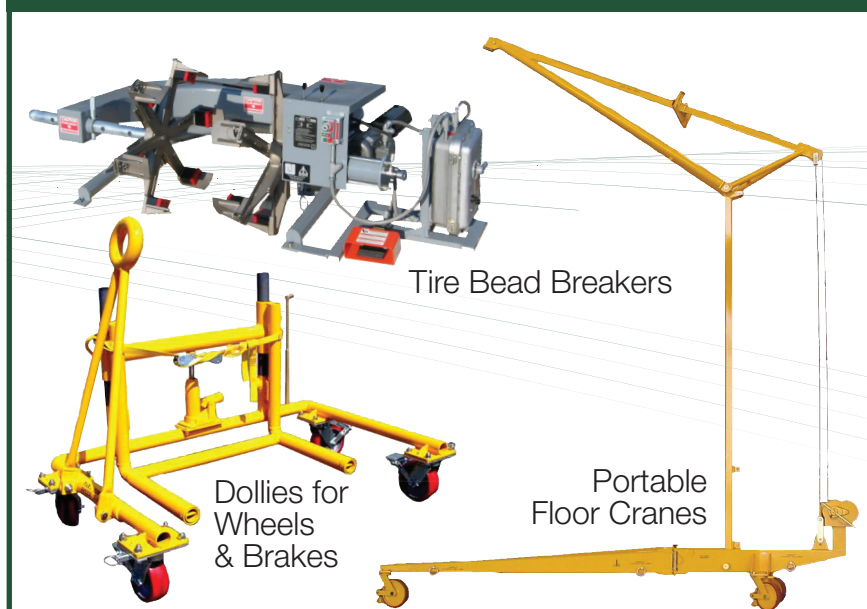
AVP: So will there be any additional

capacity or new markets served by your airline in 2018?

LP: Adding capacity will definitely be our priority. When that capacity cap can be released when the new round of bilateral aviation agreements can be reached, then we'll see how much capacity we can have to increase our frequency. We still believe the routes we fly to Boston and Seattle, and all our other destinations we do, have a demand to increase frequency. At the same time we're always looking for new opportunities in the market to see if we can further expand our network to meet the demand.

▶ To read Joe Petrie's complete interview with Hainan Airlines' Liang Pubin, please visit www.AviationPros.com/12378089

MORE THAN JACKS



Columbus JACK | Regent
GLOBAL SUPPLIER OF GROUND SUPPORT EQUIPMENT
"The Strength of Experience"

**Call Us Today
for a quote!
614.443.7492
www.columbusjack.com**

AviationPros.com/10134078



Fueling Safety From Refinery to Wingtip: *What Really Goes Into Clean, Dry Fuel*

Safe fueling of aircraft starts at the refinery and continues all the way to FBO operations.

By Randy Harrison

Nearly every FBO advertises it, but it is something the aviation community often takes for granted until there is an issue: clean, dry fuel. When fueling an aircraft, we expect the fuel to be nothing less than on specification – after all, for it to be anything but could be harmful to the aircraft, and the pilots and passengers inside. But what does it take to fuel safely with clean, dry product? And how do operations ensure it stays that way? At the end of the day, or the beginning of a trip, selecting an operation that provides quality fuel is more important than saving a few cents a gallon – what’s at stake is far more valuable.

Safe fueling does not just begin when the fuel enters the aircraft – it’s a meticulous process from the moment fuel leaves the refinery, to the moment it is delivered into the plane. But what does that process look like and how is fuel quality ensured

along the way?

To start, fuel suppliers like Avfuel have relationships with multiple refineries. In Avfuel’s instance, its supply department arranges for fuel to be delivered from one of more than 90 refineries to one of hundreds of fuel supply terminals via pipeline, truck, barge or rail car. From there, Avfuel’s logistics team – available 24/7/365 out of its headquarters in Ann Arbor, Mich. – arranges for FBOs and airports who order fuel to receive it from a supply terminal via one of Avfuel’s trained over-the-road transport vehicles or common carriers.

Throughout the delivery process – from refinery, to supply terminal to FBO or airport – the fuel has already undergone rigorous testing to ensure it meets industry specifications for quality. When the FBO or airport receives the fuel, it is tested again before being received into storage to avoid

any type of contamination. Despite the fuel already being tested multiple times up to this point, the tests are just beginning.

Once in storage, FBO or airport staff members take over. Fuel is tested regularly to ensure contaminants have not compromised its integrity and that the fuel remains clean and dry for use in an aircraft. This is where proper training for FBO and airport staff members is crucial for fueling safety.

For this reason – in response to an industry-wide push for standardized practices, and knowing not all FBOs could afford the steep prices of training programs exasperated by employee turnover and recurrent training needs – Avfuel developed its online learning management system to offer its branded network cost-effective training solutions. In addition to customer service training and front counter training, the online Avfuel Training System includes the Avfuel Rampside Training program (ART), which features 18 lessons and multiple additional downloadable resources concerning fuel handling and safety protocols:

- Fuel Handling and Fire Safety
- Aviation Fuels and Additives
- Fuel System Icing Inhibitor (FSII)
- Contaminants and Fuel Testing Methods
- Procedures for Receiving a Load of Aviation Fuel
- Aviation Fueling Components
- Fuel Storage Systems
- Mobile Refueling Equipment
- Aircraft Fueling and General Operations
- Aircraft Marshalling
- Aircraft Towing Equipment
- Aircraft Towing Procedures
- Record Keeping Best Practices
- De-icing and Anti-icing Introduction
- De-icing and Anti-icing Fluid Handling Procedures
- De-icing and Anti-icing Fluid Application
- General Aviation Security
- Supervisor Sign Off

The Avfuel Training System was designed with FBOs in mind to complement hands-on training initiatives. With video tutorials, proficiency tests and supplemental training guides, it offers a learn-at-your-own-pace format ideal for both new employees and recurrent training needs, making fueling safety education more efficient.



MORE THAN 20 YEARS OF QUALITY GSE PRODUCTS!



NARROW BODY TO WIDE BODY STAIRS



LAVATORY AND WATER SERVICE CARTS & TRUCKS



MAINTENANCE LIFTS

BELT LOADERS



METAL PRODUCTS, INC.

300 INDUSTRIAL AVENUE 3
FT. PIERCE, FL 34946
PHONE: (772) 595-6386 / FAX: (772) 595-6389
EMAIL: phoenixgse@earthlink.net
WEBSITE: www.phoenixgse.com

AviationPros.com/10117661

With easily-accessible, comprehensive training tools on hand, flight departments can be assured that line staff is more knowledgeable than ever before in fuel safety: from transferring fuel from storage tanks to refueler trucks, and refueler trucks to the wingtip of the aircraft, ensuring the quality of the fuel every step along the way. In addition to online training, Avfuel offers an FAA-approved, Part 139 quality assurance and fire safety seminar.

Of course, should an issue ever arise, Avfuel's quality assurance team is available 24/7/365 to help troubleshoot and solve fuel quality concerns.

But while FBOs have access to more fuel safety tools than ever, it pays for pilots to be proactive in the fueling process and monitor for fuel quality. Here are a few items pilots and flight departments can look for throughout the process; however, this is by

no means an exhaustive list.

Certifications: even before selecting an FBO, flight departments can consider which certifications the FBO has received and what type of training its employees complete. In addition to the Avfuel Training System and Avfuel's FAA-Approved Part 139 Seminar, many FBOs use the NATA Safety First training program or their own training program. Pilots can even ask to see an FBO staff's fuel quality training certificate to ensure those handling the aircraft are qualified to do so.

Forms and Records: In addition to training certificates, pilots can ask to see the FBO's inspection forms and fuel quality test records. By doing so, pilots can discern whether or not the FBO has a routine schedule for checking fuel quality, and whether or not those checks were recently completed and up to industry standards. Staff should

be running tests on a daily basis and keeping accurate, detailed logs of these processes.

Be Present: Beyond all this, one of the most important safeguards during the line-service process as a pilot is to simply be present. Pilots should keep an eye on the fueling and towing procedures to monitor for proper handling, being aware of their surroundings and noticing some key items:

- Ensure trucks are clearly marked as containing either Jet A or Avgas. This helps safeguard against cross-contamination and reassures pilots the correct fuel is going into their aircraft.
- Look around to notice what is stored inside and out of the facility. For instance, FSII should always be stored inside. Look for spills on the ramp—spills are a sign of negligence when fueling.
- Trucks should remain 10 feet away from aircraft engines and tires should be properly chocked.

These are just a few of the comprehensive items flight departments and pilots should consider when fueling—though simple enough, it's all too easy to choose an FBO based on price, land the aircraft, let line personnel do their business and take off. However, when dealing with expensive machinery and, more importantly, the safety of others, it pays to be proactive and pay attention.

A properly executed process full of checks and balances from refinery to wingtip ensures fuel is clean, dry and handled properly for the upmost safety in fuel handling. While clean, dry fuel may be taken for granted, from a fuel supplier and FBO perspective, it is never to be taken lightly. **GSW**



The Standard of Measurement
www.tcsometers.com / +1 260.484.0382

TCS 3000 ELECTRONIC REGISTER FLOW COMPUTER

**Control & Capture Delivery Info
& Wirelessly Transmit it to Back
Office Accounting Software**

AviationPros.com/10132746

► ABOUT THE AUTHOR:

Randy Harrison, quality assurance manager, brings nearly 30 years of experience in aviation fuel supply logistics to the Avfuel network, including QA inspections and training for distribution terminals, and engineering experience in the design and construction of aviation fuel storage systems and mobile fueling equipment. Throughout his career, Harrison has conducted hundreds of onsite quality control audits and nearly 50 Part 139 training seminars, which have educated thousands of attendees. With his vast experience, Harrison has helped develop and implement an array of training solutions: the Avfuel Quality Assurance FAA-Approved Part 139 Supervisory Training Seminar, the Avfuel Quality Assurance Training Videos and training for Avfuel's aviation over-the-road carriers.

DELTA P: FILTER DIFFERENTIAL PRESSURE AND ITS CONNECTION WITH FUEL QUALITY CONTROL

By Walter Chartrand

Clean, dry, on-specification fuel to aircraft is a "safety of flight" issue; the way to ensure this is always achieved is through proper filtration. Interestingly enough, aviation fuel is typically filtered to 1 micron and dried to less than 15 parts per million (ppm) of water at the point the fuel is delivered to an aircraft.

Many times in training sessions we are asked, "What exactly does that mean, what is the meaning of 1 Micron and how much is 15 ppm?"

A micron is one-millionth of a meter; to put that into perspective, a human hair is approximately 70 micron. We can commonly see to somewhere in the range of 40 micron. A red blood cell is 8 micron and aviation fuel is filtered to 1 micron.

When contemplating the maximum allowable water content, only 15 gallons is permitted in every 1 million gallons of aviation fuel. So, how do we obtain this level of cleanliness and extreme dryness? Proper filtration.

You may be thinking, "How can we determine how well the filter is working?"

The simple answer is differential pressure, sometimes referred to as Delta P.

Differential pressure is the measurement of the difference between the inlet and the outlet of the filter vessel. As the filter does its' job of removing particulates, an increase in the difference between a pressure reading at the inlet of the filter vessel and the reading at the outlet of the filter vessel will change. An increase in this pressure difference indicates that the filter elements are becoming filled with particulate and will need to be changed at a set value (15 psi/pounds per square inch at rated flow of the vessel).

In many installations, the gauges used to measure Differential Pressure have a 0-30 psi range when a 0-15 psi scale would be much easier to determine changes. To make this change possible, a change of inter-

nal spring and external scale can be installed.

Another common situation is that the DP gauge is located in a place that the gauge cannot be observed during the actual fueling process. The remedy for this is to incorporate a "Peak Hold" feature; this causes the gauge to remain at the highest differential pressure experienced during the fueling operation.

We researched the marketplace and found a gauge that solves these two issues. For further information about differential pressure contact Aviation Training Academy at 757-348-5862, or visit aviationta.aero.

▶ ABOUT THE AUTHOR:

Walter P. Chartrand draws from 40 years of experience in the aviation industry. He began his career at a local airport fueling small aircraft, growing to manage one of the nation's most prestigious corporate jet service centers in Houston. He earned his multi-engine instrument pilot ratings and has flown for a living. Chartrand's formal education includes an Associate Degree in Aeronautical Science and a Bachelor of Science Degree in Mechanical Engineering with a minor in Technical Education.

U.S. AIRMOTIVE GSE YOUR ONE STOP SOURCE SINCE 1963

SERVING THE GSE INDUSTRY
FOR OVER 50 YEARS



ATTACHABLE PLUGS
AND RECEPTACLES



CRUSH PROOF
LAV HOSE



LAV COUPLINGS
AND FITTINGS



JET STARTER HOSES
AND COUPLINGS



GSE
PARTS



SAFETY
PRODUCTS



WATER HOSES, COUPLINGS
AND FITTINGS



A/C CABLE ASSY
WITH NOSE



GSE
PRODUCTS



FULLY WELDED
PCA HOSE

MIAMI, FL

305.885.4992

sales@usairmotivegse.com

WWW.USAIRMOTIVEGSE.COM

LOS ANGELES, CA

310.327.8407

paula@usairmotivegse.com

AviationPros.com/10017906

A Software Platform Set on Fueling Efficiency

The airline.ONE solution from FuelPlus comprises modules designed to automate specific aviation fuel management processes.

By Josh Smith

Because fuel is a major expense in the aviation world, officials with the FuelPlus Group say it is in an airline's best interest to seek an efficient, streamlined fueling process to keep related costs as minimal as possible.

Klaus-Peter Warnke, CEO at FuelPlus, explains that saving 2 to 3 percent on fuel costs can be equivalent to selling hundreds of thousands of passenger tickets when looking at an airline's annual bottom line.

As a result, FuelPlus has taken a larger view on the entire aviation fuel management process, looking for ways to help its customer's reduce operating costs.

"Fuel is something that is an enterprise-wide process for suppliers. When we look into the airlines, we have different activities around fuel," Warnke says.

These activities include preparation processes, including both volume planning and budget plan-

ning. Then there are several tender activities to ensure that the fuel required for different locations is available. That leads to supply contracts, which are managed by supply chain operations, in order to deliver fuel product from refineries to the airports.

Later on, there are activities around operations, such as collecting fuel tickets and documentation of delivery of fuel into storage systems.

What's more, airlines then need to handle accounting processes, such as calculating expected costs for the month, as well as checking and receiving invoices.

"Quite often, we see this organized in a way which is more based on silos – the planning department, the procurement department, an operations team and an accounting team working independent of each other, using their own products, using their own tools," Warnke says. "That, obviously, leads to a lot of inefficiencies in managing fuel in a professional way."

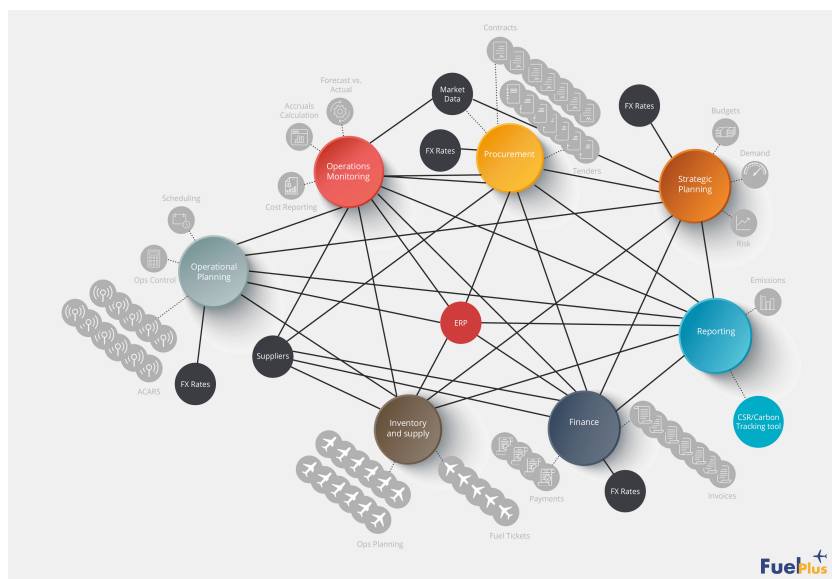
To improve workflow, FuelPlus provides its airline.ONE software, which has been implemented by more than 50 airlines. Among other features, the solution reduces fuel usage; cuts manual administration; increases internal efficiencies; and complies with audit and reporting guidelines.

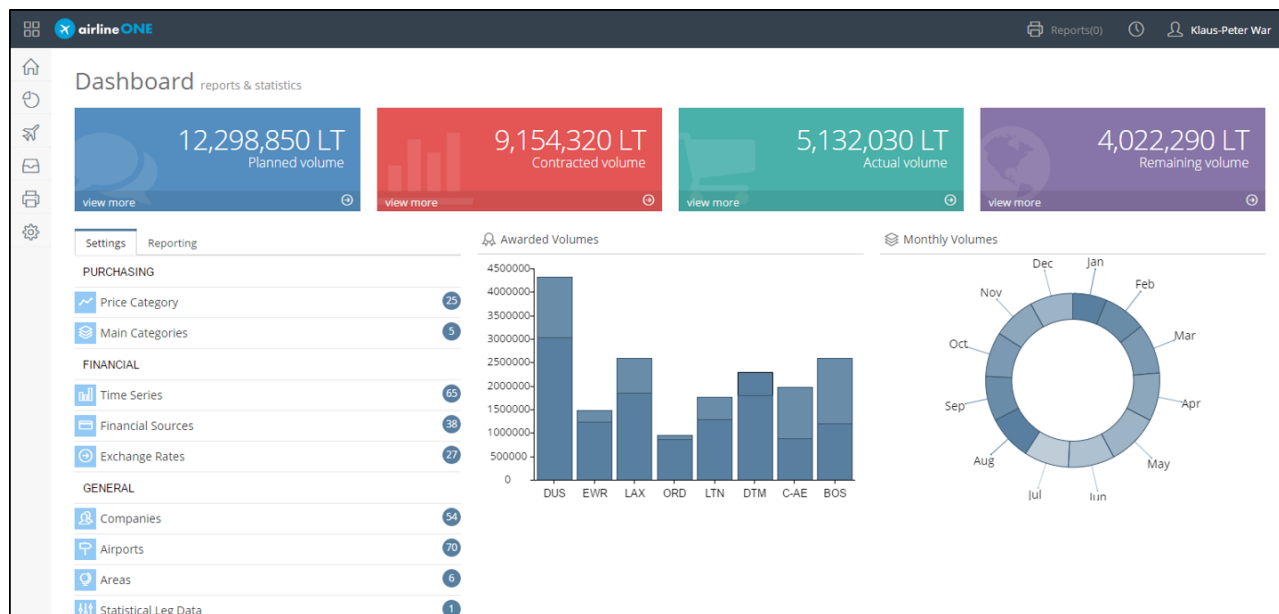
"Aviation fueling is a quite complex process, which needs all the different companies, all the different entities, to work together to make it happen," Warnke says. "Our vision at FuelPlus is to automate, and to bring efficiencies to this process."

The CEO of FuelPlus points to automation as the most important feature of airline.ONE because of the productivity it can lend to staff during day-to-day operations.

"You want your people to become more efficient. You want to use their knowledge and release them for all the daily routine activities," he says. "You want to use the knowledge of your people to do

All photos courtesy of FuelPlus





analysis, to look for new ways to provide fuel to the airline or find new processes that can save money.”

Warnke also notes that staying compliant with various regulations is vital, and is something airline.ONE provides.

“You want to make sure that all the different processes around tendering, contract management, accounting, invoice checking and payment are done to accounting standards and according to audit requirements,” he says, adding the appropriate software ensures checks and balances and implements controls.

airline.ONE is offered as software as a service (SaaS), which reduces the amount of setup required for customers. It can be hosted in the Cloud or in a FuelPlus data center. Further flexibility is provided by allowing customers to subscribe to standalone modules to automate specific processes.

The amount of training required to use the platform varies depending on the background of the individuals utilizing it.

“If you talk to people who are knowledgeable in the underlying fuel management processes, then it’s basically a plug-in. So we would be offering a tool that basically fits into the existing processes,” Warnke says. “If you’re talking to people who are new to the industry, then obviously it’s quite a bit more training to raise awareness and to understand the principles of fuel management.”

Updates have been built in regularly

throughout the 20 years the software platform has existed.

“We’ve implemented a lot of best practices into the product,” Warnke explains, noting these upgrades were created based on customer feedback.

In addition to airline.ONE, the company offers a supplier product, supplier.ONE and is at the forefront of facilitating data exchange across its portfolio to help airlines and fuel suppliers automate fuel management information.

“If you look into aviation fuel, then you also have to look across boundaries,” Warnke states. “In the end, it’s something in which airlines and suppliers and also into-plane companies that are in charge of fueling the aircraft need to collaborate.”

Initially involved in the development of fuel management products for Lufthansa, FuelPlus has been in the field for more than

20 years – primarily in Europe and Asia. The company has recently moved into the U.S. market, where there are differences in the way fuel is procured.

In Europe and Asia, Warnke explains, fuel management is based on an into-wing model. However, in the United States, airlines have more access to infrastructure, so they can rent tank storage.

“So they have the option to buy fuel product into the tank at the airport. This means there is a need for inventory management,” Warnke says.

“There are also opportunities in the U.S. to operate your own supply lines,” he continues, noting that involves additional logistics planning and execution. “And the tax system in the U.S. is quite complex. This is sometimes a burden to have all these taxes set up correctly in order to calculate costs and to check invoices.”

He says FuelPlus can use its expertise to handle specialized calculations, which helps with functionality and ease of implementation for the end user.

“Looking into the U.S., we see there’s a lot of room for improvement. Things are very manual,” Warnke says. “Sometime in the near future, I’m very optimistic we can bring all the airlines, the suppliers and also the into-plane companies at the airports into the mix – to connect all of them and really have automated process that will make the life of everyone involved much, much easier.” **GSW**





AIRCRAFT REFUELERS

ProFlo Industries LLC

ProFlo Industries manufactures and refurbishes a complete line of aircraft refuelers ranging from 500 gallons (1,800 liters) to 10,000 gallons (40,000 liters) in capacity for fueling a wide range of aircraft from helicopters to wide-body jets.

AviationPros.com/12302921

FUEL SERVICE CART

Par-Kan Company

The Par-Kan FSC-300 X2 GSE Fuel Service Cart offers 600 gallons of total capacity, 300 gasoline and 300 diesel. With two hand pumps with meters, two fuel filters, static grounding reel and fire extinguisher, the equipment is mounted on a four-wheel product containment trailer.

AviationPros.com/12274802



TCS 3000 REGISTER

Total Control Systems

The TCS 3000 register is a fully integrated flow computer that controls all delivery operations. The open software architecture provides users with a tailored system that is expandable for future needs. The TCS 3000 features Additive and Differential Pressure Measurement and Control, Inventory and Wireless Integration to back office software.

AviationPros.com/12375007



Hydraulics International, Inc.
OXYGEN & NITROGEN BOOSTERS

INCREASE PROFITS

Gas Boosters provide up to 40% MORE FILLS

Primary use for filling or topping off...

Onboard Oxygen Bottles • Struts • Escape Chute
High Altitude Low Opening (HALO) • Life Rafts • Tires

Even if your source gas pressure drops below 300-PSI



2G SERIES

Electric Driven

- 5000-PSIG rated
- 15 SCFM discharge rate
- Quiet, only 60 dba
- No belts or pulleys
- 2-Stage and double acting configurations



5G SERIES

Air Driven

- 5000-PSIG rated
- 36 SCFM discharge rate
- Portable
- Single acting, double acting and 2-stage configurations



HIHPG1 SERIES

Air Driven

- Two (2) bottle hand truck
- Fits bottles 9.3" in diameter and 51" in height
- Accommodates single / double acting and 2-stage configurations
- Automatic shutoff safety valves



HYDRAULICS INTERNATIONAL, INC.

9201 Independence Ave., Chatsworth, CA 91311 USA
(Phone) 818.407.3400 | (Fax) 818.407.3428

www.hiigroup.com



Made in the U.S.A.

HYD-3865.3

AviationPros.com/10017435



HYDRANT TRUCK

BETA Fueling Systems, LLC

BETA hydrant dispensers perform reliably for the world's most demanding oil companies, airlines and aviation fueling companies. All hydrant dispensers now feature the company's Central Command Module with state-of-the-art reporting capabilities for the ultimate experience in data communications designed for rugged, hazardous, and mobile conditions. The design of this progressive system takes refueling equipment diagnostics, troubleshooting, maintenance, and data reporting to new heights.

AviationPros.com/12377026



SPRING RETRACTABLE FUEL DELIVERY HOSE REELS

Reelcraft Industries Inc.

Reelcraft's spring retractable, fuel delivery reels, equipped with Viton seals, incorporates metal forms to insure the greatest possible strength and are ideal for mobile and permanent-mount applications. These rugged, corrosion-resistant reels are suitable for a wide variety of fuel applications including E85. Series F/ FD/FE/FSD reels are all supplied with its ball-bearing style swivel.

AviationPros.com/12140589



15,000 GALLON JET REFUELER

SkyMark Refuelers

The SkyMark 15,000 Gallon / 57 KL Jet Refueler is based on the company's 10,000 Gallon Jet Refueler, which is in operation around the world. It includes all of the groundbreaking SkyMark innovations found in the company's full line of equipment.

AviationPros.com/12310563

GAMMON TECHNICAL PRODUCTS

Gammon Technical Products Inc.

Gammon Technical Products is a manufacturer and distributor of aviation fuel (Jet and Avgas) equipment for quality control, handling and sampling, additive injection, static reels and cable, differential pressure gauges, overwing "Skyhawk" nozzle, bonding and grounding.

AviationPros.com/12013911



FUEL TEST KIT

Conidia Biosciences Ltd.

The Fuelstat immunoassay test kit manufactured by Conidia Biosciences is a 100 percent accurate and low-cost method for detecting microbial contamination in middle distillate fuels (aviation, kerosene and diesel) with results provided in 10 minutes. Fuelstat is endorsed by International Air Transport Association (IATA), holds NATO stock numbers and is ASTM D8070 compliant.

AviationPros.com/12306016

Ground Power to the People!

Bringing affordable and high quality ground power to you! AERO Specialties' new line of solid state power units have set the standard for safety, precision, reliability and ease of use. Units available in both 28.5V DC and 400Hz configurations.



+1 208-378-9888 | www.aerospecialties.com €

AviationPros.com/100169200

FUEL TICKET AUTOMATION

QT Technologies

The Fuel Ticket Automation system from QT Technologies simplifies the process for fuel suppliers, into-plane providers and airlines, and in the process, eliminates costly mistakes like mis-fuelings and over-fuelings. The system provides a cloud-based portal, which a fuel vendor is able to access and dispatch flights out to fuelers and manage the fueling operation, itself. Fueling vendors have access to tickets and reports about their fueling operation to confirm fuelings were done according to what was requested by a flight planning group.

AviationPros.com/12378329



AVIATION FUEL DISPENSING CABINET

PEAR Hose Corporation

PEAR aviation fueling cabinets are designed and built with many years experience and assembled in the company's shop. Every unit is engineered to provide years of reliable service and designed to meet all applicable industry standards such as ATA103, EI1540, B836-14 and the NFPA407.

AviationPros.com/12376858

FUEL HANDLING AND QUALITY CONTROL EQUIPMENT

Crown Products Inc.

Crown Products, Inc. provides patented Water Detection Probes, Deadman Systems, and other products required to ensure fuel is at its best. The company also features a quick turnaround nozzle repair program and distributes quality products for leading manufacturers in aviation fuel filtration, refueling hoses, and new nozzles.

AviationPros.com/12377740



DESIGNED FOR TODAY'S AIRCRAFT

MODEL GS350

The NEW Generation Belt Loader



> Designed to withstand the harsh ramp environment, from vibration, temperature fluctuations, moisture, dust & dirt.

> GSS System can detect size, distance, relative trajectory and relative speed of objects in its field of view.

> GSS Aircraft Strike Avoidance System is designed to stop aircraft strikes before they happen, limiting human error.



GROUND SUPPORT SPECIALIST

2205 Cole Rd., Horn Lake, MS
Phone: (662) 342-1412 • www.GSSONLINE.com

AviationPros.com/10017370

FUELING WING MAT

Fjord Aviation Products

Fjord Aviation Products AFP-1824 or AFP-1836 WING MAT is designed to be used when fueling with over wing aviation fueling nozzles for aircraft that have top of the wing fueling ports. The mat prevents scratches, scrapes, dings, marks or streaks from the nozzle or hose or drips while fueling. It is made of high impact absorbing urethane polymer and is chemical and fuel resistant and flame retardant with operating temperatures from -20 degrees F to 200 degrees F.

AviationPros.com/12362670

FUEL TANK PURGE AND MAINTENANCE Rhine Air Inc.

Portable Fuel Tank Ventilation Equipment and Supplied Air



Respiratory Protection Systems from Rhine Air operate on all model of aircraft and rotorcraft. It reduces maintenance turn times, while creating a safer working environment. Users

have a choice of compressed air or electric driven versions, which can be used worldwide by both commercial and military customers.

AviationPros.com/12376860

DIDSBURY "PURGE AIR" FUEL TANK DRAINING, VENTING AND SAFE ENTRY SYSTEM

Deltic Group Inc., The

A convenient all-in-one system, endorsed and used by Airbus Industries, the system typically reduces a 24-hour natural venting process to under an hour. It offers suitable adapters for different aircraft types.

AviationPros.com/12377446

STAINLESS STEEL HOSE ASSEMBLIES Goldstein-Schwartz Inc.

Stainless Steel Hose Assemblies For Higher Pressure / Temperature Flexible

Connections For Handling Fuels, De-Icing Chemicals, And Testing Media. The company stocks SS Hose, Braid And Fittings From 1/4" Through 24" ID For Immediate Fabrication And Shipment. End Fittings Include 150#, 300# & 600#



Forged Steel, T-304 SS or T-316 SS ANSI Flanges; Carbon Steel, T-304 SS Or T-316 SS Male NPT Nipples; Carbon Steel, T-304 SS Or T-316 SS JIC Female Swivels, etc.

AviationPros.com/12215841

FUEL DISPENSING CABINET Millennium Systems International LLC

The MARS JP-8 fuel dispensing cabinet from Millennium Systems Intl. features 304 stainless steel construction with

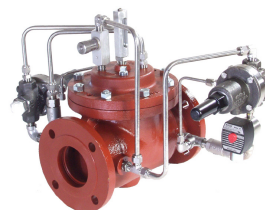
aluminum roller shutter door, EI 1581 5th Edition stainless steel filter/separator, 200 US gpm L.C. meter, dual hose reels, overwing and underwing nozzles, all stainless steel piping and manual valves, back pressure relief valve and seal-welded steel containment pan.



AviationPros.com/12302958

MODEL 114-1E REFUELING CONTROL VALVE OCV Control Valves

The OCV Model 114-1E is specifically designed for aircraft refueling service. Known as either a refueling or a hydrant control valve, it opens and closes electrically via a solenoid pilot. It also modulates to control downstream pressure at a predetermined set point while opening and closing rapidly to prevent undue pressure buildup due to a rapid reduction in demand.



AviationPros.com/12377037

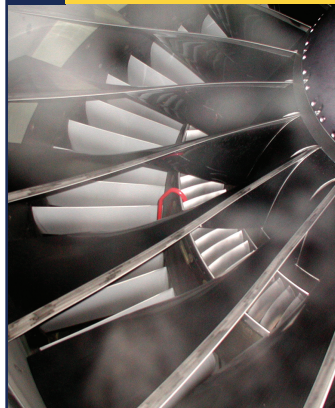


www.juniper-liverpool.com



Part no: JMP/CFM56/D/4777/C200. NSN: 1730-99-668-7936

The Juniper 2x25 gallon wash rig with accessory tooling for all engine types.



Times are tough. You need flexible, cost effective engine washing. You need Juniper.



Tel: +44(0)151 733 1553
Email: gse@juniper-liverpool.com

AviationPros.com/10017987

INTELLITROL2 CONTROLLER

Scully Signal Company

The Scully Signal Company Intellitrol2 Controller is designed

for fueling safety. It provides overfill prevention, ground verification, vehicle identification and terminal automation communication all in one compact unit. Coupled with a trailer/refueler system consisting of an onboard monitor, sensors, ground bolt and vehicle identification module,

it provides a fail-safe solution to petroleum fueling safety.

AviationPros.com/12284423



A-320 'NOZZLE LIFT' FUELING STAND #21138 WAAG

This fueling stand utilizes hydrant cart plumbing and nozzle. The stand needs no certification. Easy, one-hand operation raises and lowers the fueling nozzle for A-320 with no hydraulics. It offers O.S.H.A.-compliant forward ascent and descent stair, and is powdercoated with WAAG safety orange and a second coat of U.V. resistant clear.

AviationPros.com/12380464



AVGAS TRUCK RPD Services

RPD Services offers an Isuzu avgas truck with a 750 gallon, aluminum tank, a gas engine and automatic transmission. The 40 GPM pump is hydraulic driven with a vertical filter/monitor. The piston meter has a mechanical register and ticket printer. The hose reel is a multi-wrap style for 1" x 50' overwing hose. These trucks are designed and built to be reliable, durable refuelers.

AviationPros.com/12242599

LEKTRO

Since 1945

The Original Aircraft Tug



**Models Ranging
15,000 to 280,000 lbs.**

- Electric
- Towbarless
- Certified
- Universal
- Easy to Use
- Simple to Maintain
- Rugged

www.LEKTRO.com

1-800-535-8767 1-503-861-2288
sales@lektro.com

AviationPros.com/10017532

DON'T WASTE YOUR TIME WE OFFER SOLUTIONS FOR GROUND SUPPORT EQUIPMENT



RENTAL UNITS AVAILABLE

Advise on purchasing
Equipment and Parts




Worldwide Shipping Available

PARTS

For the following manufacturers:

SGS on line store

USA Miami: +1 305 888 0189
Toll Free USA: +1 877 473 2669
COL. Bogotá: +57 (1) 344 1380
COL. Medellín: +57 (4) 609 5833
Rep. Dominicana: +1 829 236 2518

Buy parts on-line: www.gs-exp.com

HOBART TRILECTRON* J&B AVIATION* *AIR-A-PLANE* HARLAN *CLARK*
JBT AEROTECH FMC* AP MANUFACTURING *TUG* DAVCO* S&S* CLYDE* *WASP*
ISCAR GSE TESCO* TRONAIR* ARVICO* LIFT-A-LOFT* TLD* LANTIS* ACE* NORDCO*

AviationPros.com/10017767



AVIATION ABOVE GROUND FUELING SYSTEMS

American Environmental Aviation

American Environmental Aviation (AEAV) manufactures tanks and pumping systems for aviation fueling projects as well as complete turnkey construction solutions for aviation fueling and storage projects. The nationwide aviation fueling equipment manufacturer can design, manufacture, complete site work and install aviation fueling systems.

AviationPros.com/12377621

TRANSFUELER T-SERIES Quality Fuel Trailer and Tank, Inc.

TransFueler T-Series is a modular, mobile fueling system. It consists of a series of independent 119 gallon tanks, allowing for fuel transport and storage without needing restrictive DOT certifications.

AviationPros.com/12081517



DROP & GO CONTAINERIZED FUELING SYSTEM Refuel International

The Containerized Refueling System is built to standard ISO container sizes, complete with corner castings and lifting lugs integrated for lifting, loading and securing. Refuel International designs and manufactures the Fueling Module and its operating system, which is then integrated into a QHC containerized tank. The system consists of a customized 3-degree slope to a single sump from where water is pumped out using a diaphragm pump located on the fueling module. The tank is fitted with access cover, pressure and vacuum vents and an electronic level sensing system.

AviationPros.com/12182666





Bryant Fuel & Power Systems, Inc.

Bakersfield, CA

**Fueling fixed and rotary wing aircraft
around the globe since 1990.**



Bryant Aviation Fueling Systems have set the standard for the most demanding U.S. Military Fueling Operations, Commercial and General Aviation fueling requirements. JP8 / Jet A and AvGas systems for retail, direct to aircraft, bulk to truck or multi-purpose.



Contact: George C. Adam – Sales Manager
1-800-873-3566 or 661-334-5462 ext. 205
george@bryantfuelsystems.com
www.bryantfuelsystems.com

AviationPros.com/12378069

Automate your fueling experience!

Today's competitive world demands we do more with less. A Par-Kan automated fueling cart simplifies your fueling process and is engineered for exceptional reliability and will transform the way you deliver fuel.

PAR-KAN™

STRENGTH. QUALITY. SERVICE.



Par-Kan Company LLC.

Silver Lake, IN 800-291-5487 www.par-kan.com

AviationPros.com/10017637

HYDRANT CARTS

Westmor Industries, LLC

Westmor Industries offers a customizable line of aviation products, allowing customers to choose options as well as the configuration. The company's Hydrant Carts are towable up to 25 mph and fuel up to 450 gpm. The units utilize a solar-powered electrical system with battery storage and electric registration system.



AviationPros.com/12377780

EAGLEVIEW LARGE LED DISPLAY FOR REFUELING

Tekinno Corporation Inc.

The Eagleview Large LED Display for Refueling allows users to see critical information from a distance, eliminates need for a checker, reduces back and forth, displays volume, pricing or total and displays messages.



AviationPros.com/12376822

SCHWEISS
THE DOOR LEADER

DOORS

HYDRAULIC

ONE-PIECE DOORS

— OR —

BIFOLD

STRAP LIFT DOORS

• AVIATION • SHOP DOORS

• AG DOORS • BARN DOORS

SCHWEISSDOORS.COM
507-426-8273

AviationPros.com/10017751

YOUR FREIGHT & SHIPPING EXPERTS

Experience You Can Depend On!

714-377-5933

www.AirOceanPros.com • Sales@AirOceanPros.com

AviationPros.com/10018518

Mercury GSE

Ground Support Equipment

www.mercurygse.com

for current stock of air starts, bag tugs, beltloaders, bobtails, crew and passenger stairs, gpu's, loaders — main and lower deck, tow tractors and other items.

SALES LEASE RENTAL APPRAISAL

WE BUY SURPLUS GSE

PH: (562) 653-0654 FAX: (562) 653-0665
E-MAIL: dtaylor@mercurygse.com
12519 Cerise Ave., Hawthorne, CA 90250

AviationPros.com/10017592

ALBERTH AVIATION

TOOLS & EQUIPMENT DESIGNED BY MECHANICS FOR MECHANICS

Spanner Socket Kit	Oxygen Fill Adapter
<p style="font-size: 0.8em; color: black;">Available for Gulfstream and Global Express</p> <ul style="list-style-type: none"> Low profile allows for single-person use Easy alignment w/attached flashlight in site holes Includes socket, flashlight, & no-flex breaker bar head 	<ul style="list-style-type: none"> 3 in 1 tool: Fill port connector, wrench, screwdriver Spring-loaded retractable socket driver Secure removal of service port nut without stripping Assures tight seal before servicing oxygen

Tire Cage • Bottled Water Cart • Lav Cart • Wheel & Brake Dolly • Tooling

20

years

www.AlberthAviation.com • 832.934.0055

AviationPros.com/10016971

GSE SOLUTIONS

20+ YEARS GSE EXPERIENCE

- Transmission Shift Inhibitors and Interlocks
- Multi-Zone Top Speed Limiters
 - Collision Avoidance
 - Idle Control
- Engine Shutdowns
 - Access Control
 - Impact Sensing

SSC
Making Equipment
SAFER - SMARTER - GREENER

SAFETY SYSTEMS & CONTROLS

www.loadingzonesafety.com

713-465-8839

AviationPros.com/10017728



AEROSERVICIOS
GROUND SUPPORT EQUIPMENT

- Provides Ground Support Equipment Solutions
- Large Inventory of new & used GSE equipment available
- Sales, short and long term rentals
- Overhauls & reconditions all units
- 100+ Well trained experienced mechanics & technicians
- Warranty in all products
- Domestic and international shipping

3750 NW 49 ST, Miami FL 33142

Phone: +1(305) 637.3040 info@aeroservicios.com

AviationPros.com/10016926

DAVIN Inc.

SALES, LEASING, FINANCING

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

EQUIPMENT AVAILABLE

(Contact us if you need equipment not listed here!)

Aircraft Pushback
Tractors

Passenger Stairs

Baggage Carts

Pallet Container
Dollies

Aircraft Air
Conditioners

Aircraft Deicers

Tow Bars

Catering Trucks

Potable Water Trucks

Belt Loaders

Ground Power Units

Lavatory Trucks/Carts

Airstarts

Aircraft Heaters

Tugs & Bobtails

Visit: www.DavinGSE.com

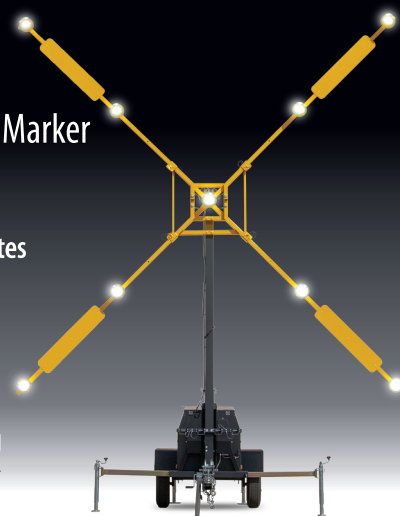
for complete list & pictures of available equipment.

AviationPros.com/10017167

X-Marker™ L-893 Runway Closure Marker

- Exceeds FAA standards
- Deploys in under 5 minutes
- 7-day run time
- 24-hour battery backup
- Long-life LEDs
- Integrated fluid bunding

Bunding system is optional. Not included on standard product.



WANCO®

800-972-0755 | wanco.com

AviationPros.com/12342963



FORTBRAND
SERVICES INC.
www.fortbrand.com

516 576-3200

info@fortbrand.com

SALES RENTALS LEASING FINANCE CONSULTING

AIRCRAFT TOW TRACTORS

JBT B400 (30,000 lbs. GVW)
Eagle TT-12, 12,000 lbs. DBP

BAGGAGE TRACTORS

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

GPU

TLD 90Kva/28V dual output
TLD 90 Kva + 120 Kva

HEATERS

Generac MAC400FHC
Air-A-Plane 5050D

PASSENGER STAIRS

Clyde towable, 88"-161"

DEICERS

Premier MT43P21-ABS, closed bucket,
forced air

LAVATORY TRUCK

Wollard TLS 770

WATER TRUCK

Phoenix Metal Products WT 450

CONVEYORS

NMC-Wollard TC-888, gas

AIR CONDITIONERS

TLD 802 115-ton w/heat
TLD 804 65-ton
TLD 302 30-ton w/heat

FOR SALE OR LEASE

AviationPros.com/10017302

SAFETY BUMPER CUSHIONS



DAMAGE PROTECTION

- Extra in Mold Coating on Tough, Industrial Grade, Self Skinning Polyurethane Foam
- Designed for High Impact Applications
- High Tear Strength, Abrasion Resistant & UV Resistant

- Moisture, Chemical & Solvent Resistant: Deters Skydrol, MEK & Fuels
- Meets FMVSS 302 & Cal 117 Fire Retardant Standards
- Custom Designs, Colors & Framing Available



Call Today: 206-285-5656

www.mantecservicesinc.com

Made in the USA • ISO9001:2008 Certified • Women Owned • Small Business

AviationPros.com/12039110



▲ Editor - Josh Smith
jsmith@aviationpros.com
920-563-1644

Let's Get Together

No matter where our team visited in 2017, we found dedicated people striving to improve the way we think about ground support.

With 2018 arriving, I found myself, as many people do, looking back at what transpired during the past year.

What stood out was the amount of traveling that took place, as the *Ground Support Worldwide* team crisscrossed the United States to deliver our annual Leaders of the Year Awards, and traveled to Asia and Europe for the IATA Ground Handling Conference and inter airport Europe, respectively.

Additionally, we made our way to various conferences and symposiums with agendas focused on specific topics related to particular aspects of the industry.

The destinations all proved worthwhile. Each event and meeting we attended materialized into an article, news item or other feature in the pages of the magazine and online at AviationPros.com.

That, by itself, is valuable.

But perhaps what was even more valuable, was the reminder that despite all the technological advances that allow us to stay connected across the world, there is very little that can replace in-person interaction.

Whether it's meeting industry professionals with years of ground support knowledge face-to-face, or simply observing activity on the ramp while waiting for your flight to take off, seeing things for

yourself is critical to staying informed.

Our industry has many dedicated, intelligent members. Take advantage of this by attending industry events to improve your own knowledge and improve operations. If you missed a trade show last year, make a resolution to attend this year (hopefully, we'll see you in Las Vegas for the International Airport GSE Expo in October).

Obviously, we can't be everywhere. So when you can't venture out of the office, use the numerous resources available – trade publications, electronic newsletters and other reference materials.

Continue to learn, and help the industry grow and evolve.

SOCIAL MEDIA & ONLINE CONTENT



FACEBOOK
Facebook.com/
GroundSupportWW



LINKEDIN
linkedin.com/groups/
1763027



TWITTER
@GroundSupportWW



INSTAGRAM
groundsupportww

MEDIA CENTER



Technosim Pushback
Simulator
AviationPros.com/12349130

TOP ARTICLE



TLD and EasyMile Unveil
TractEasy
AviationPros.com/12374044

ONLINE PRODUCT GUIDE



Ramp Safety Materials from
Estex Manufacturing
AviationPros.com/12383752

THE ONLY SHOW DEDICATED TO
GROUND SUPPORT EQUIPMENT

INTERNATIONAL AIRPORT GSE EXPO

OCTOBER 2-4, 2018

RIO ALL-SUITE HOTEL & CASINO

LAS VEGAS, NEVADA, USA

www.GSEexpo.com

Save the Date for International Airport GSE Expo 2018!

Make plans today for 2018 International Airport GSE Expo, the world's largest event exclusively focused on Ground Support Equipment. Don't miss it!

We expect:

- ✓ 2,500+ industry professionals
- ✓ 200 or more exhibiting companies
- ✓ 65,000+ square feet of equipment and demonstration space

And much, much more!

Submit your Exhibit Space Application today!

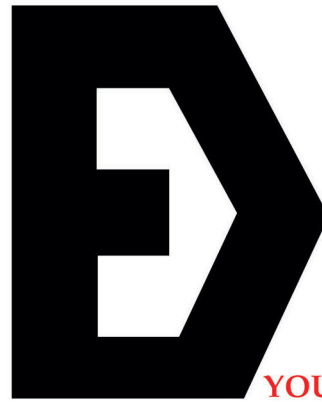
Be sure to visit www.GSEexpo.com or contact Show Director, Sue Ralston – sralston@GSEexpo.com – to get started.



Presented by

Ground Support **IAEMA**
WORLDWIDE International Airport Equipment
Manufacturers' Association

ENGINE DISTRIBUTORS INC.



YOUR Tier IV Solution

Reliable • Durable • Clean • Green

Engines That Are The Solution To Your Tier 4 Diesels.



5-YEAR,
5000 HOUR
WARRANTY
FOR THE
GSE MARKET



Ford Advanced Technology Engines.

Our line of LSI industrialized Ford engines are available and serviced through a Global Dealer Network.

Featuring a complete line of EPA and CARB Certified 1.6, 2.5, 3.7 and 6.8 L LSI Engines ranging from 20 to 200 hp. Available in Gasoline, LPG, CNG, Natural Gas and Dual Fuel. Secured Volumes, Longer Life Cycles, Dry Fuel and Flex Fuel Valve Trains – You Can Find It At EDI. Performance you can count on!

Engine Distributors Inc. 400 University Court • Blackwood, NJ 08012
Phone: (856) 228-7298 or (800) 220-2700 • www.edi-dist.com