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30
YEARS

INDUSTRY EXPERT COLUMN

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Ground Support

APRIL 2022

WORLDWIDE
EQUIPMENT – SERVICES – HANDLING

HOW TO DETERMINE THE BEST SOURCE FOR GSE MAINTENANCE

Understanding all associated costs and analyzing key details of an operation can help ground service providers determine whether in-house maintenance or outsourced solutions will be most effective.

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ONLINE EXCLUSIVES



Build Impactful DBE Networking for Your Airport

By Joe Petrie

Unibail-Rodamco-Westfield shares its strategy to engage DBE stakeholders at LAX.

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ARTICLES



Technology for User-Friendly Catering

By Josh Smith

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VIDEOS



Cybersecurity Risks During Global Geopolitical Events

Cybersecurity evangelist Neil Jones with Egnety discusses steps the aviation industry can take when world affairs create elevated risk of cyberattacks.

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PODCASTS



Paving an Aviation Career Pathway

Rob Polston, CEO of Spartan College of Aeronautics and Technology, and Eli Mayes, director of maintenance for SkyWest Airlines, discuss the SkyWest Aviation Maintenance Technician Pathway and how it aims to address the labor shortage.

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PRODUCTS

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The Future of Travel is on Display at Pittsburgh International Airport

By Luis Vidal

The airport's design concept, NaTeCo, reflects the region's rich nature, technology advancements and strong sense of community.

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6 Questions about Section 163 (Including 'Is this Really Good for Airports?')

By Rebecca Kanable

The FAA is obligated to document whether or not it has regulatory authority over use of airport property. A Section 163 determination involves looking at airport layout plan authority and how land was acquired.

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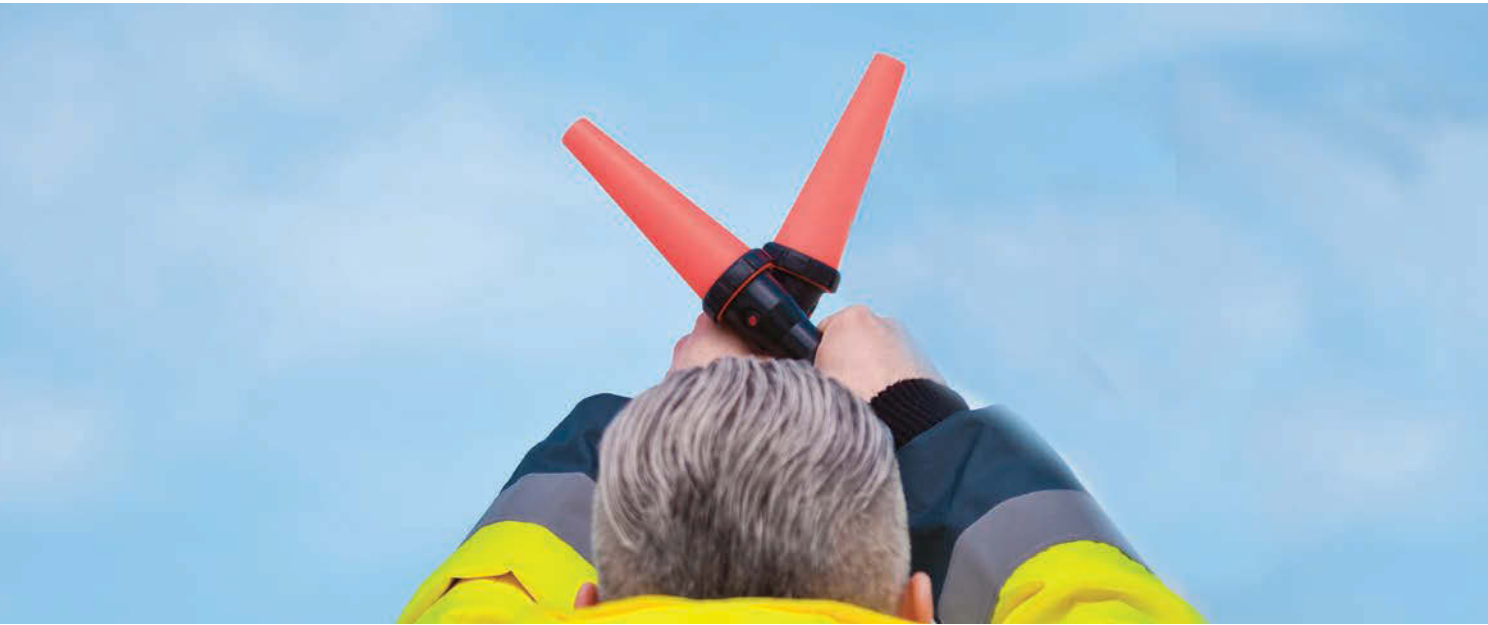


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Editor's Note



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The Value of Training

Ground service personnel require the proper guidance to create a safe working environment, especially as the industry's workforce returns to the ramp.

In an industry where safety is essential above all else, the importance of well-trained ground handling personnel is crucial.

Proper training reduces the risk of injuries and damage to the expensive assets on the ramp. But challenges surrounding training still exist.

In this month's Cover Story and Ground Service Providers feature, the labor challenges facing the industry are highlighted. Skilled employees are becoming difficult to find and expectations from the workforce are shifting.

As the industry continues its recovery from the COVID-19 pandemic, training is taking on an increasingly important role.

Of course, many organizations were forced to reduce their staffing levels as passenger flight volumes bottomed out. As a result ground handling proficiency has been impacted as experienced members of the workforce left to pursue other opportunities. Some may not return to the ground handling industry. Others may not have worked consistently during the pandemic and require recertification.

But as passenger traffic increases, retaining skilled and experienced ground handlers is even more important.

The industry needs to attract new talent to augment the current workforce. Evaluating training methods can assist with this need.



Online/remote solutions can make training materials more accessible and technology-enabled training methods, such as virtual reality, can help ground service providers enhance training by streamlining operations and improving capabilities. Innovative training tools can be more engaging, which can result in better retention of safety related knowledge.

Training is a topic in need of ongoing discussion, and *Ground Support Worldwide* will continue to cover it from all angles. Recently, at AviationPros.com we launched a Source eBook devoted

to the topic. This collection of articles, blogs, podcasts and other resources is designed to keep you informed on this vital topic and will be updated regularly with new materials. Visit AviationPros.com/magazine/49044 to check it out.

We can also learn from one another. I welcome you to share your own experiences with training. How has your operation succeeded in training? In what ways can the industry's training methods improve?

Reach out to me at josh@AviationPros.com.

Tractor Tales

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TOP NEWS

AeroVect and GAT Partner to Deploy Autonomous Driving across US Airports

AeroVect and GAT Airline Ground Support announced a strategic long-term partnership to pilot and deploy self-driving ground support equipment (GSE). Over the next few years, the two companies aim to deploy as many as 50 vehicles equipped with AeroVect's self-driving technology at major US airports served by GAT.

At the core of AeroVect's product offering to airport ground support providers and airlines is the AeroVect Driver, a self-driving system that can autonomously operate GSP-owned ground support vehicles safely and reliably across a variety of OEMs, starting with baggage and cargo tractors.

"We are enthusiastic that GAT shares our long-term, forward-thinking mindset to deliver next-generation ground support infrastructure across America through technology. This key partnership represents an important milestone in the implementation of autonomous vehicles at scale to make ground operations more reliable and predictable, with safety and on-time performance benefits that also roll up to airlines, shippers, and travelers alike," said Raymond Wang, co-founder and CEO of AeroVect.

"AeroVect's autonomous GSE technology is not only useful and practical, but importantly a big step forward that enhances ramp safety. GAT Airline Ground Support has always been a first mover in the ground support industry, and we continue to invest in new frontier technologies that enable us to offer the safest, most efficient, and most reliable ground support service to our airline partners across major airports in the United States," said Mike Hough, CEO of GAT.



Upcoming Events

April 27-29

MRO Americas

Dallas, TX

April 29-May 4

NEC/AAAE International Aviation Snow Symposium

Buffalo, NY

May 3-5

NBAA Maintenance Conference

San Antonio, TX

May 23-25

CNS Partnership Conference

Phoenix, AZ

May 30-June 2

IATA Ground Handling Conference

Paris, France



BP Refinery in Lingen Starts Production of SAF from Used Cooking Oil

BP, the parent company of the international aviation fuel products and

services supplier Air BP, has completed an industrial first in Germany producing sustainable aviation fuel (SAF) from used cooking oil. The BP plant in Lingen is the first industrial production facility in Germany to use co-processing to produce SAF from waste and residues.

The Lingen refinery processes the used cooking oil together with crude oil in its existing facilities, which is called "co-processing." The end product is SAF. Thanks to "co-processing" BP can continue to operate the existing plant

with some modifications and extensions and also make a direct contribution to decarbonization.

"SAF is one of the aviation industry's key routes to reducing carbon emissions, so this is exciting news for Air BP and for the industry as a whole. Co-processing is an important step in replacing fossil fuel with renewable feedstocks within refineries. This production of SAF at Lingen will open up new supply opportunities in the region," said Martin Thomsen, CEO, Air BP.

PEOPLE

Unilode Appoints Ross Marino as New CEO

Unilode Aviation Solutions announces the appointment of Ross Marino as chief executive officer. Marino succeeds Benoit Dumont, who has stepped down from his chief executive officer position.

Marino has more than 30 years of aviation experience, having worked in numerous senior and executive management roles at leading global ground handling organizations and airlines. He had a 15-year-long career at dnata and most recently held the position of chief executive officer Europe. He holds a Master of Science degree in Aviation from the University of New South Wales, Australia, and completed an executive education program of the London Business School.

John Hanna, partner, head of Europe, Basalt Infrastructure Partners, said: "We are very pleased that Ross has joined

Unilode as its new CEO and are confident that he is the right person to continue driving Unilode forward in these very exciting and challenging times of the aviation industry. Ross is a proven leader with exceptional strategic and business development vision and broad aviation industry experience, and we look forward to growing Unilode's business together. I would like to thank Benoit Dumont, Unilode's departing chief executive officer, for his leadership, commitment and dedication over the past four years. During his tenure Unilode undertook a massive transformation that saw the development of new services, the launch of digital solutions, the expansion of its network and the growth of its customer base. We wish Benoit the very best in his future endeavors and welcome Ross at the helm of Unilode."



Marino

Swissport Appoints Global Head of Mergers and Acquisitions

Pablo von Siebenthal joins Swissport from global transport and logistics company Kuehne+Nagel, where he has held the position of global head of M&A since 2018. In the newly created role as global head of mergers and acquisitions, he will report to Iván Nash Vila, chief financial officer of Swissport International AG.

"Pablo joins Swissport at a very exciting time, as air traffic is recovering at an accelerating pace following the COVID-19-related decline in demand," said Vila. "We want to leverage Swissport's position as the global market leader in aviation ground services and execute an ambitious, global growth and acquisition plan."

At Kuehne+Nagel, von Siebenthal has led M&A transactions across Europe, North and South America and Asia-Pacific with a total deal size of more than



von Siebenthal

\$2 billion. Previously, he was an M&A advisor with PwC in Switzerland and Australia, a corporate development manager with a Swiss private bank, and part of Credit Suisse's investment banking team. He is a CFA charter holder, a certified Post Merger Integration specialist and holds a master's degree in business administration and a bachelor's degree in banking and finance from the University of Zurich.

Scania Appoints Rickberg as Chief Financial Officer

Jonas Rickberg has been appointed chief financial officer, reporting to Christian Levin, president and CEO. Rickberg was previously VP finance and business control, sales and marketing at Scania.

Since he started at Scania in 2005, he has held positions in finance, business control and services within the areas of research and development, production

and logistics, commercial operations, dealerships and sales and marketing. He took up his current position as vice president finance and business control for sales and marketing in 2017.

"Jonas Rickberg has a broad experience from basically all parts of our operations and there is no more well-rounded and business-oriented profile to lead the finance element of the transformation of Scania," said Levin. "Perhaps even more importantly though, his solid knowledge of flow-oriented operations and new business models – both key elements for Scania going forward – will add a lot of value for the company."

Rickberg joined Scania in 2005 and has a Master of Business Administration from Gothenburg School of Economics. He succeeds Johan Haeggman, Scania's CFO since 2015 and who assumes the role as head of TRATON Financial Services.



Rickberg

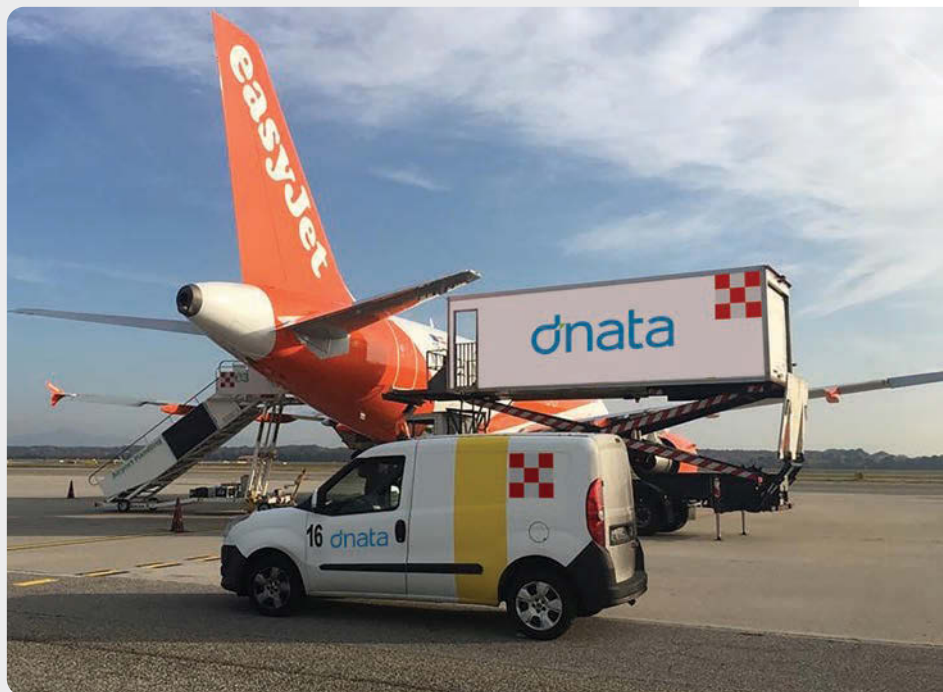
NEW DEALS

dnata to Manage easyJet's Pan-European Inflight Retail Services

dnata has been appointed to manage easyJet's inflight retail services across the airline's extensive network. The contract marks a significant milestone for dnata's growing catering and retail business, cementing its position as a leading end-to-end inflight and airport service provider globally.

The agreement will see dnata provide easyJet with a comprehensive suite of services covering retail strategy; product development and selection across food, beverage and duty-free; procurement; marketing; cabin crew engagement and financial management. dnata will work closely with easyJet and leading technology providers to deliver a modern, technology-led program, with the airline's customers front and center.

"We're immensely proud to become the inflight retail partner of choice for easyJet across its European network. We will work closely with the airline's teams to bring a modern, digital-led retail experience to easyJet's customers, putting products people love on-board and delivering value for passengers and the company," said Robin Padgett, divisional



senior vice president for catering and retail, dnata.

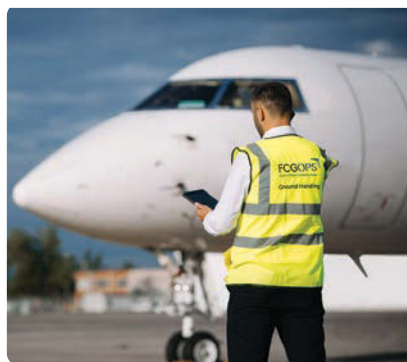
"We are delighted to be working with dnata on an opportunity to transform our inflight retail service and we are confident they are the right

partners to support us in realizing our ambitions to deliver an industry-leading, innovative onboard retail experience for our customers across Europe," said Simon Cox, director of in-flight retail for easyJet.

FCG OPS Adds Stations in Poland and Romania to its Ground Handling

FCG OPS continues to expand its ground handling network and enters new European markets. The company announces the launch of a full range of airport ground handling services in Poland and Romania, including Warsaw (EPWA), Gdansk (EPGD), Katowice (EPKT), Krakow (EPKK), and Bucharest (LRBS).

"Quality and safety are at the center of this FCG OPS strategy. Not only do we invest in industry-leading technologies, but also in our team to provide a consistent quality of service at each of the



airports we are present in. We already have representatives in these new regions – Roland Tchórzewski in Poland

and Andrada Gheorghiu in Romania. They have an excellent understanding of the local specifics and can provide fast professional support on site, which our customers value. FCG OPS network now covers the whole of Eastern Europe making our services integrated and complete," said Sergey Starkov, managing director of FCG OPS.

"Bucharest Baneasa Airport makes a fresh start with the new VIP lounge, offering an exclusive airport experience. Together with FCG OPS, we can prove our reputation and reach next level of hospitality," said George Dorobantu, CEO of Bucharest Airports National Company.

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Jettainer to Manage ULDs for T'way Air

South Korean airline T'way Air has chosen Jettainer to provide unit load device (ULD) management services as it expands its aircraft fleet. The two partners signed a five-year contract. Since March 1, Jettainer has been providing containers and pallets for the airline's three new Airbus A330 aircraft.

T'way Air is on a growth trajectory. The low-cost carrier will add three leased widebody Airbus A330-300 aircraft to its current fleet of Boeing 737-800s by May. Jettainer will provide the airline with a customized ULD fleet and will manage the steering, maintenance and repair of all units.

"We are putting our ULD management services in the best hands by opting for Jettainer's many years of experience and professional services. As we grow our fleet now and in the future, we are deliberately embracing sustainable and cost-efficient ULD solutions so this partnership is an excellent fit with our constant efforts to increase innovation, cut costs, and enhance efficiency," remarked Sung-sup Park, chief cargo external affairs director at T'way Air.

"We are active all over the globe and recognize that the Asian market offers significant potential to us, as aviation will continue to grow there in the years ahead. Outsourcing ULD services is an especially attractive alternative for expanding airlines like T'way Air as efficient management cuts costs and reduces CO2 emissions," said Thorsten Riekert, Jettainer's chief sales officer.



Menzies Secures Contracts Across Australia and New Zealand

Menzies Aviation has renewed and won several key contracts with airlines across Australia and New Zealand including China Airlines, Fiji Airways, Virgin Australia, Thai Airways and Air Calin.

Menzies has renewed its ground services contract with China Airlines at Sydney, Melbourne and Brisbane airports, marking 10 years since it started working with the airline at Sydney. Since then, the partnership has expanded with Menzies now providing above and below the wing services to China Airlines at Australia's three busiest airports.

At Sydney and Melbourne airports, Menzies has also renewed a contract with Thai Airways, which will see it continue to provide passenger and ramp services for the airline.

In New Zealand, Menzies has locked in a further term with Fiji Airways to provide air cargo handling services at Auckland, Christchurch and Wellington airports. This partnership began in 2011. At these three airports, Menzies has established itself as a premium Cargo Terminal Operator (CTO), with its state-of-the-art warehouses at Auckland and Christchurch, and brand-new facility at Wellington. Reflecting this, Virgin Australia has selected Menzies as its new CTO across all three stations.

Menzies will continue to be Air Calin's CTO at both Auckland and Sydney airports, building on a 15-year partnership with New Caledonia's national carrier.

"It is fantastic to see the momentum we have achieved across Australia and New Zealand with this series of key contract wins and renewals. These wins demonstrate Menzies' consistent standards of excellence across both ground

services and cargo, and the value of long-term co-operation with our airline customers. We're looking forward to further deepening these relationships and to continued growth in the Oceania region," said Alistair Reid, executive vice president – Oceania and South East Asia, Menzies Aviation.

Liberia Airport Authority Awards New Ground Handling License to NAS

The Liberia Airport Authority awarded an exclusive 10-year ground handling management contract to National Aviation Services (NAS). NAS will provide ground handling services at the Roberts International Airport (ROB) airport in Liberia. Services include passenger handling, ramp services and lost luggage handling for all airlines operating to and from the airport. These airlines include Air France - KLM, Ethiopian Airlines, Brussels Airlines, Air Côte d'Ivoire, Kenya Airways, Royal Air Maroc and ASKY.

"On behalf of the President of the Republic of Liberia His Excellency Dr. George Manneh Weah, the board of directors, management and staff of the Liberia Airport Authority (LAA), we would like to state that we are looking forward to our partnership with NAS. This partnership will greatly improve our technical and professional capacities at the Roberts International Airport (RIA) and allow the LAA to provide a world-class experience while taking a major step forward in the aviation industry," said Musa Shannon, chairman of the board of LAA.

"We are excited to be expanding our long standing relationship with the Liberia Airports Authority and remain grateful for their continued trust in NAS. As a part of our operations in the country, we remain committed to enhancing and upgrading both, systems and processes at the Roberts International Airport to bring it on par with international levels. We have also started investing in the required infrastructure, equipment and staff training to adhere to the highest standards of quality and service excellence," said Hassan El-Houry, group CEO of NAS.



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How Investing in Safety Improves Employee Retention

Communication, organization, motivation and appreciation are critical factors to ensuring a safe and happy work environment for ramp service agents.

BY ANTHONY VALENTE

What is the airline industry's biggest investment? High-tech equipment? Awesome aircraft? When it comes down to it, it is the employees that are the core of the airline industry. The employees are the gears that turn the company and keep it functioning. It seems cliché to say "build it from the ground up," but it is simple and it works.

The COVID pandemic shattered many of the functioning systems that companies had in place. And, along with this, employees were lost. Now, in rebuilding company structures, we are seeing the struggles of finding new employees and retaining them.

A strong foundation means a strong company, and in the airline industry, the ramp service agents are the place to start. They do so much of the behind-the-scenes work to ensure that an aircraft is ready for take-off and all of the customer's baggage is handled properly and delivered to its destination.

For these employees to do their job, it is paramount that the industry ensures that they are safe, first and foremost.

Beyond safety, the interactions to help make their job easier and show appreciation for all they do is key to retaining them. Four critical points to hold onto your biggest investments are communication, organization, motivation and appreciation.

Communication

Communication is essential to convey your message to every employee.

Your message could be one of functionality or safety that your employees must all be aware of. Your message may also be directional signage so employees can navigate their paths or other informational systems.

Customized signs, banners, way-finding systems, decals, floor signage and equipment decals all need to be in place to implement a cohesive system to keep employees safe and informed.

During these COVID times, it is even more important to have clear, meaningful signage and decals to assist employees in their everyday operations.

By using tools to aide employee relationships, such as communication boards that have important messaging, leaders can motivate ramp service employees to have pride in their work.

The company that cares for their employees produces employees that care for their company in return.



Organization

In addition to communication, organization needs to be taken into consideration. There are many intricate layers that come together to keep the airline industry efficient. Organization within each of these layers is crucial to communicate your message.

Companies need to be able to supply items and materials to make sure that there is a consistent system in place to make organization easy. Leaders who stress safety and consistency and implement systems to carry out safety initiatives instill confidence in their employees.

Motivation and Appreciation

The third and fourth key points, motivation and appreciation, work in tandem to retain employees. There is an understanding that, in any work environment, employees want and need to be appreciated and that spurs motivation.

The tools a good leader uses to keep moral up and focus on the concerns of employees will not only retain staff but motivate them to perform at their highest levels. When employees feel empowered and respected, they remain loyal to their company. The company that cares for their employees produces employees that care for their company in return. Understanding this is imperative.

There are many ways for a company to show their appreciation to their employees. Company clothing items, awards and other small company logoed items are a great place to start. Making sure to recognize your employees will go a long way in building up their motivation to work harder for the company that appreciates them.

Benefits of Retention

Communication, organization, motivation and appreciation all merge together to create an experience for each employee, where they feel valued as part of the bigger picture of the company no matter what level they are at.

Leaders who stress safety in the workplace and practice it, give confidence to the team that they are concerned about everyone's well-being. Proactive safety recommendations and suggestions provided to leaders enhance and promote safety. Reflective decals for equipment, warehouses and back offices, and safety bulletins and checklists for employees to use provide numerous benefits, as do safety awards that promote safety in the workplace.

Employee turnover (churn) impacts an operation negatively due to the cost of new hires and training. The average cost to hire a new employee is about \$3,500.

Ramp experience is a crucial aspect. Responsibility for \$100 million aircraft is a key component where new hires need time to understand and watch out for the many moving pieces in the operation. Safety is also a factor. Because of those moving pieces, new hires need to be trained to

When employees know that safety is the top priority, they will feel appreciated and want to stay with the company.

be safe for themselves, others and the expensive machinery they are working on and near.

With current workforce shortages, these issues are magnified. With an average of more than 20 percent, and more in some cases, the impact of employee turnover is real and needs more focus.

However, an operation can benefit when new hires are added with a focus on continuous safety and awareness. It also brings new vision to the workforce and more excited employees who start work. It keeps the operation fresh with new eyes and new ideas.

When employees know that safety is the top priority, they will feel appreciated and want to stay with the company. Going above and beyond, exceeding expectations and being original in thought and action will keep your most valued asset – your employees – happy, prosperous and retained. **GSW**

ABOUT THE AUTHOR

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How to Determine

the Best Source for

GSE

Understanding all associated costs and analyzing key details of an operation can help ground service providers determine whether in-house maintenance or outsourced solutions will be most effective.

BY JOSH SMITH

GSE shops must continually train on new technologies and keep track of updates to different asset types.

PHOTO BY GSE

Maintenance

Proper maintenance of ground support equipment (GSE) is necessary to ensure ground service providers are operating economically, turning aircraft around efficiently and contributing positively to on-time departures.

The most effective way to perform GSE maintenance – and determine whether it should be done by an operation's own mechanics or outsourced to a third-party maintenance provider – can differ depending on a number of variables.

The costs and analytics to consider when examining GSE maintenance rely primarily on labor costs, overhead for the maintenance shop and management of the process and employees, explains Jason Gendron, president and CEO of Mercury GSE.

"Direct costs relate to rising labor rates, employment taxes, insurance and supply chain for parts related to GSE," he says. "Mercury is seeing an increase in requests for outsourcing of maintenance requested from new and existing Mercury customers, from airlines, cargo operations and ground handlers looking to reduce the maintenance capEx on their fleet."

Wayne Ingle, senior vice president of operations for PrimeFlight Aviation Services, suggests beginning by looking at the overall cost comparison between insourcing and outsourcing GSE maintenance. That often starts with the real estate footprint that would be required to effectively maintain a fleet, as the availability of real estate in certain airports is extremely limited, he says.

"Once you have reviewed the real estate investment and availability, you'll want to consider if you will need maintenance hours or operational coverage hours, and if you need dedicated or fractional labor," Ingle adds. "What is the workload to effectively manage your fleet? With the current labor market conditions, hiring skilled mechanics can be both difficult and costly, so ensuring you are taking this into account, if this isn't a position your team typically hires for, is important."

When it comes to indirect costs, Greg Manny, SVP of operations at Xced, says it is important to factor in the cost of maintaining a piece of equipment compared to the GSE unit's value.

"At Xced, we track monthly maintenance costs versus the depreciated value, fair market value, etc., of a specific piece of equipment, ensuring we do not spend



Depending on the type of GSE an operation needs, OEM direct training and specialty training on equipment may be required.

more than what the market value of the equipment is at the time," he says. "We also look for trends in parts and maintenance on units to proactively dig deeper into issues before they become major, more costly problems."

In addition to the maintenance itself, investing in maintenance systems can produce an indirect cost for a GSE maintenance provider.

"Everything is starting to get more complex. You need systems for everything. You need to digitalize everything," says Bruno Vanpoucke, group head of commercial at TCR, "So, you need to invest in a maintenance management system, which is typically costly, in order to do those."

Other difficult-to-quantify costs include insurance, variable fleet sizes, contract management and branding. Additionally, Vanpoucke notes advanced

training can add to indirect maintenance expenses. Training is becoming even more imperative as the GSE industry adopts the latest electric vehicle technology.

"It's a complete shift in terms of the type of people. Typically, you need less people but higher skilled people who cost much more on a per-hour basis," Vanpoucke says.

While GSE maintenance costs don't vary much for airlines, ground handlers and FBOs, each group, company and operation may have varied, allowable out-of-service levels and fleet ages, which can drive differences in cost of maintenance, explains Ingle.

Union labor can have an impact on GSE maintenance costs. For example, airlines can sometimes bear the brunt of labor costs associated with GSE maintenance, Gendron says, noting the



PRIMEFLIGHT AVIATION SERVICES

MAINTAINING MAINTENANCE EQUIPMENT

BY JOSH SMITH

The shop equipment used to maintain assets requires regular care to remain in peak operating condition.

For example, Navi Gupta, president at Preneet Holdings, points out APU stands should be inspected every six months. What's more, a comprehensive check should be conducted once a year.

"The stands that have isolators (GTCP 131-9B and GTCP 131-9C) need to have isolators changed every 5-7 years depending on condition," he adds.

Mechanics should keep watch for indications that an APU stand may need repair, including signs of rust and excessive wear and tear.

A repair on an APU stand may require the equipment to be out of service for 2-4 days. However, Gupta notes routine maintenance can usually be completed with 24-48 hours.

When determining whether to repair or replace an APU stand, mechanics must compare the cost of repair versus that of a new unit.

"Also the amount of damage and type of damage," Gupta adds. "For example, if rust is present, the stand can be sand blasted and re-painted. If a mounting bracket is bent or broken, it may be advisable to replace the stand.

"A certified APU stand can provide trouble-free service for several years without any major issues, maintenance or repair. Also how the stand is used and stored will affect the durability of the stand," he continues. "For example, if a stand is used to store the engine for long periods of time as opposed to being used to transport APUs extensively. Also, if stands have isolators and are stored outside as opposed to inside or a controlled environment – will prolong the life of the isolators."

higher costs of union labor, depending on the location of the airfield. He says a bulk of major airports will have higher direct costs than an outlying airfield operation that is non-union.

"FBOs tend to be non-union and have a smaller fleet of ground support equipment to contend with," Gendron adds. "Ground handling operations face the same challenges that airlines and large cargo operators face."

By utilizing new or like-new rebuilt GSE and maintenance services, ground service providers can save money and mitigate downtime.

"The differences for each operation really depend on the size and age of the fleet and the amount of labor overhead needed to keep up with breakdowns and repairs," Gendron says, adding airlines are experiencing the greatest challenge with the factors of a limited supply

chain for parts, labor shortages and rising fixed costs.

Different equipment operators use GSE at varying intervals. So based on the usage of equipment, maintenance requirements can also vary.

"Heavily used equipment will require more maintenance attention as opposed to lower used equipment. However, performing the required preventative maintenance at the correct intervals mitigates major breakdown events and allows the users to control and plan for costs," says Manny.

Staffing Challenges

According to Vanpoucke, labor availability, including skilled technicians, has decreased due in part to the COVID-19 pandemic.

"They were already a scarce resource, but even more so post-pandemic. A lot of these people with technical skills are in high demand in a lot of other sectors," says Vanpoucke. "So, it becomes harder and harder to find these people. Then you'll obviously have a typical supply/demand effect where the salaries go up and the costs go up."

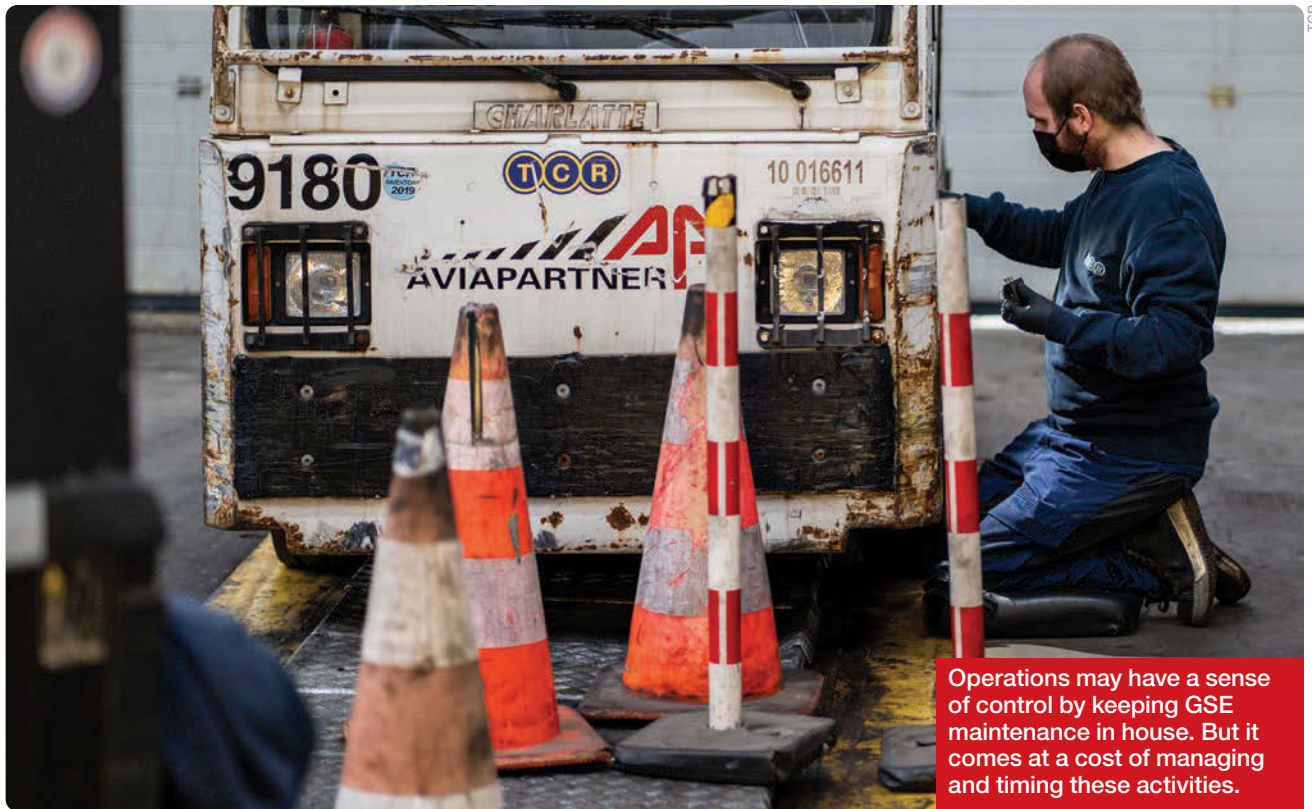
The labor shortage can lead to difficulties with in-house GSE maintenance depending on the scale of the operation.

"When fractional labor is all that is required, but the coverage of hours needed is widespread, operations need to look at how best to maintain labor efficiencies while not negatively impacting the health of the fleet or the operation," adds Ingle.

While having experienced staff is always a major plus to have on your side, Manny notes the current market conditions for GSE mechanics are difficult, at best. What's more, the lack of experience often leads to mistakes in critical decisions resulting in higher costs.

"As the industry stabilizes again, we are confident good career opportunities for new mechanics will return and the process of building experience will improve," Manny says.

To combat current staffing levels challenges faced by airlines, ground service providers and FBOs, Gendron says Mercury GSE has added recruiting staff to its human resources operations to remain fully staffed with quality



mechanics. This has resulted in more operational GSE.

"In one case, a Tug tractor had been flooded in a rainstorm and had water in the fuel tank. No one checked for that, and we were able to get it back in service quickly even after airport techs had given up on it. This was likely related to short staffing, the hiring of less skilled labor and no available training of new techs by the manufacturers in the current environment," he says, adding Mercury runs through a thorough inspection process before sending out an asset on rent and keeps accurate maintenance records to improve uptime.

GSE shops must continually train on new technologies and keep track of what is going on with different asset types. For example, Gendron says assets such as cargo loaders are complex and technicians with specific cargo loader experience are becoming more difficult to find.

"The key is to measure aptitude of techs and train them in the right way to repair and maintain the assets," he says.

"We often send techs to training courses at the manufacturers, however, that was dampened by the COVID-19 pandemic. There are video trainings and video tech courses that can be utilized. The internet is a powerful tool.

"I would say that keeping up to date and constantly improving your skills as a maintenance technician either on your own time or through an employer is relevant to stay competitive in today's environment," Gendron adds.

"Depending on the type of GSE your operation requires, you may need OEM direct training and specialty training on equipment such as deicers, refueling equipment and some cargo equipment," points out Ingle.

"Most OEMs offer virtual training and since changes in technology are ever changing, getting the most up-to-date training on techniques, common problems, and their solutions, while introducing your staff to new challenges all build up to a more experienced and efficient shop," Manny says.

In addition to initial training, there is a constant need for training related to

troubleshooting new systems that relate to emissions control, on-board computers and electrical systems, Ingle adds.

"It's important to have a strong training program as well as focus on continued learning and development," he says.

Training, particularly recurrent training, keeps everyone on the same page and leads to a more knowledgeable staff.

"Continuous learning also keeps individual drive and ambition at a high level," Manny says. "The more training a mechanic has, the more opportunities to succeed and improve their careers is available. We can't stress the importance of training enough."

While some technicians may specialize in hydraulic repair or electrical work, Vanpoucke says TCR places a focus on all-around technicians that may specialize in certain types of equipment.

"We try to organize around families that are kind of similar and have people become experts in those machines so they can troubleshoot in the best possible way," he says. "There it's really about keeping them up to date about the machines and the new features, etc.

"All of these machines are electrifying," Vanpoucke continues. "All of these people, in order to be able to work safely, they need to be accredited for high-voltage maintenance. That's something we're investing a lot in because that's going to be key in order to keep the maintenance safe and guarantees on assets as well."

Pros and Cons

There can be positive takeaways from performing in-house GSE maintenance as well as outsourcing these tasks.

"People can have a sense of control, or more direct control, if you keep it in house because you are steering everything. But that obviously comes at a cost of managing that and timing that," says Vanpoucke. "Whereas with an outsourced solution, it's more about ease of mind and obviously the prime goal in the end is reducing the total cost of ownership of your fleet. Otherwise, you wouldn't do it."

When it's appropriate for an operation to outsource GSE maintenance, the benefits can be endless, including cost savings, according to Ingle.

"Specialized GSE maintenance providers can also help when there is a need to overcome real estate shortages, navigate labor market challenges or leverage fractional labor," he says.

"If GSE maintenance is a core competency, you gain the ability to control your own assets and out of service times," Ingle continues. "Depending on the fleet size of your operation, and the expertise of your team in overseeing and managing GSE maintenance operations, you may also be able to find cost savings, improved service levels and added visibility."

Outsourcing may be a better choice to maintain a company's ability to stay flexible during growth spurts, says Manny.

Not having the costs associated with starting a new shop allows for faster start-ups and in the event a route does not work, helps when a provider needs to move.

"Usually, the labor and other costs of contracting with a third-party shop

may be slightly higher, but the ability to remain nimble often outweighs those costs," Manny says. "If you know a station is well established and the workload is consistent, it may be better to in-source maintenance. Providing a stable work environment for in-house

staff leads to better quality work and less turnover. High turnover is very costly, so in-sourcing could lead to substantial savings and a better workforce."

Officials at Mercury GSE have seen the benefits of conducting maintenance both ways. The decision should be made

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not just by the numbers but by reliability assessment.

"This should be a decision that is made asset specific. What I mean by that is that you can have a hybrid system that leases the more complex, critical assets – cargo loaders, heavy tractors, GPUs, etc. – on a full-service maintenance basis while having an in-house shop that can conduct basic maintenance and repair tasks on less critical and complex assets," Gendron says.

In order to accurately assess its in-house maintenance capabilities, it is most important to review the current cost of a fleet's maintenance side-by-side with the service levels provided, advises Ingle.

"Is your fleet being maintained proactively? Is there any negative impact to your operations as a result of fleet maintenance?" Ingle asks. "We also can't ignore the current labor market, and the difficulties and increased cost of both hiring and retaining talent."

Training on the equipment must be the primary focus of in-house maintenance, Gendron emphasizes. While many technicians come to the airfield with some sort of broad experience, they can also exhibit bad habits.

"Standardizing the maintenance process and documenting processes is

paramount to successful uptime and keeping the process moving forward. It also allows for someone to step in and duplicate what has happened with that unit," Gendron says. "Documentation must be precise and analyzed in order to run a lean, successful maintenance operation."

The parts costs associated with maintenance of equipment must all be assessed to determine whether outsourcing is the right choice, and parts supply and timing must be evaluated as well.

"Knowing your annual parts spend and what you need in stock for each asset category is crucial. In larger fleets this requires a parts manager or specialist, which is additional overhead," Gendron says.

In some cases, a ground service provider may keep some maintenance tasks in house and outsource other maintenance work. Occasionally you can have a situation where either due to staffing shortages or skill levels GSE maintenance could be outsourced, Gendron says.

"There are instances where handlers with their own shop farm out maintenance issues on a case-by-case basis to third-party providers," he adds.

"Looking for specialized services while keeping costs lower or flat when

performing maintenance outside of your expertise is something to be considered," says Manny. "For example, ground power units can be difficult to repair and maintain. If your staff are experts on engine repairs, but weak on generator repairs, looking for an experienced gen shop would help to get the best overall maintenance process for a GPU."

Having technicians working within their areas of expertise can result in improved and timelier maintenance.

"Each shop is different even within the same company," Manny adds. "Airports are also different and often do not have space for ground handlers to have their own shops at every location."

When an operation requires maintenance for both a motorized and non-motorized fleet, or when an operation requires specialized assets, a combination of insourced and outsourced maintenance may be utilized.

"It is very common for a provider to look at their maintenance needs on an airport-by-airport basis due to the differences within each market, including fleet size, fleet complexity, labor market and number of other factors that may drive the complexity of a maintenance operation," Ingle notes.

The scale of an operation can play a role in making maintenance decisions.

"For example, you're in a station and you have such a big operation and there's two workshops available and you cannot fit everything into one – and one is your own workshop and the other is an outsourced workshop," points out Vanpoucke. "In some stations we're not present and the scale is just too small to start up, so they keep that in-house at that smaller station."

However, Vanpoucke adds, having two or three maintenance providers within one station may not be ideal because maintenance may be conducted using different systems and provide varying dashboards and key performance indicators (KPIs).

"And then you typically end up having a lack of visibility," he says. "That's the thing you often want to achieve. If you want to go with an outsourced provider, especially across



Assets such as cargo loaders can be complex and technicians with specific cargo loader experience are becoming more difficult to find.

families or across stations, is to be able to get the same data from your fleet everywhere.”

Outsourcing Maintenance

If outsourcing GSE maintenance is the right choice for an operation, Gendron suggests managers talk to others in the industry about their experiences and ask for references; seek advice from industry associations and trade shows when seeking out a third-party maintenance provider.

“Start with a basic snapshot of your maintenance needs and your satisfaction with your current maintenance provider, whether that’s your internal team or an external provider,” adds Ingle. “You’ll want to review everything from your current labor levels and if they are meeting your needs, the location of the shop in relation to

your operation, the hours of operation needed and the age and type of fleet you have.

“All this should be clearly defined to ensure you pick a provider that best meets your needs,” he continues. “When reviewing providers, you will want to look at their fit with your needs, their track record within the market and the total cost of service.”

According to Vanpoucke, making clear agreements with a third-party maintenance provider is key for success.

“Going to an outsourced solution and keeping it entirely ad hoc and variable and just saying, ‘Look, I’ll bring my machine in when I want and just tell me how many hours it will be and give me an invoice.’ That’s not the way to go,” Vanpoucke says.

“If you want to go for an outsourced solution, you have to do it in

a partnership mentality and allow for long-term visibility because then you allow the party to invest in tooling and people, etc.,” he continues. “If the engagement or the contract is very ad hoc, very short term, it typically doesn’t end up with the added values we want to go for. The contracting side is quite important as well.” **GSW**

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Software's Helping Hand for Labor

As ground service providers wrestle with the workforce issues of the day, technology is easing some of the burden.

BY WALKER JAROCH

Ground service providers face a number of labor issues, from scheduling workers to ensuring on any given day that they are fit for work, but one issue has hung over the industry larger and longer than any other. Employee retention and hiring was a problem pre-pandemic and has only been exacerbated by the events of the past two years.

"The Great Resignation, or Big Quit, is still with us," says John Brant, VP for platform strategy and resource acquisition, ARCOS.

"Data last week from the BLS showed job resignations are up 23 percent over levels before the pandemic hit," he continues. "But a lot of those folks are quitting one job to take a higher paying one elsewhere.



John Brant, VP for platform strategy and resource acquisition, ARCOS

Employers are paying more and looking for ways to attract talent. Employees are re-examining what they want from their work life."

John Gemmell, senior aviation advisor for Predictive Safety, adds that, by far, the number one issue is employee recruitment retention due to COVID and its effects on the industry.

"And the ID process at airports, in the larger ones takes up to 30 days. So, people come in the pipeline, interested in the job, and then they know they can't get on for 30 days without being paid and go through all these background checks. So, the attraction for the wages versus what's outside that they can start work almost immediately, a McDonald's, a Walmart or something. It's been the biggest challenge, by far, the last two years in the industry," he adds.

Gemmell says that high turnover has always been an issue in the industry but was usually manageable. COVID has brought it now to near unmanageable levels and it will stay that way for a while.

"It's going to be for the foreseeable future, but it's starting to show signs of lessening. In that people now feel they can com-

Uschi Schulte-Sasse, senior vice president, Aviation Division for INFORM GmbH



INFORM

mit to a job and not be interrupted by COVID interruptions where the operation shuts down, flights shut down,” Gemmell says. “Most major companies in aviation are experiencing a shortfall on a daily basis of 30 to 40 percent under head count. How do you make up for that? Tons of overtime. What happens when you give tons of overtime? People get tired, they get burnt out, they get fatigued.”

Uschi Schulte-Sasse, senior vice president, Aviation Division for INFORM GmbH, says adding to the problem is that Generation X, Y and Z are much more interested in a work-life balance and want to be involved in decision-making regarding their assignments and schedules.

“As a result, the industry is more widely applying next-generation technologies to better manage workers and accommodate their preferences. This was not previously the case. Today, we’re seeing all sectors of the industry deploy workforce management solutions to address shift preferences, ensure that workers are assigned tasks for which they have the proper skills, and also to ensure adherence with service level agreements,” she says.

Staying Alert and Safe

As noted, a solution to under staffing is scheduling current employees for greater work. But the increased workload can lead to fatigue and other mental states not conducive to a safe environment.

“Because of the labor shortage, people are working so much, meaning longer hours and being driven for overtime, that it’s becoming difficult to keep safety metrics in line,” says Jeff Sease, VP operations for Predictive Safety.

And that’s where Alert Meter comes in, giving employers a tool to measure the cognitive state of their employees. Through puzzle solving, a user can tell if they are overly fatigued for their assigned duty, for example.

“You set your own test pattern and cognitive awareness by taking 10 tests randomly to build that baseline. So, you’re always competing against yourself, no one else. It’s against your own cognitive awareness when it’s measured as being stable,” Gemmell says.

“AlertMeter is a game-like app that can be executed on a mobile device or via a tablet or a computer browser that is entirely shape-based, language-independent and non-discriminatory,” adds Sease. “And the process to take the assessment is that basically, you play the AlertMeter game, and you look at a series of shapes and you choose — are one of the shapes different, or are they all the same? And it also has a memory component tied into it. So, you have to see a shape. And then, a little bit later, distinguish that shape from a field of other shapes.”

Each test is evaluated in four different ways and works on a user’s personal baseline, evaluating speed, accuracy, situational awareness and consistent cognitive behavior.

“People develop personal proclivities to different shapes and it evaluates how they’re performing today on those shapes compared to how they normally perform. And in a recent clinical trial with Denver University, it was found to be more sensitive to fatigue than the current gold standard psychomotor vigilance test that’s used in clinical environments,” says Sease.

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Officials at Predictive Safety recommend everybody on a crew uses the AlertMeter prior to shift, so it becomes part of the clock-in routine. And many of their clients will also use it at the lunch break and/or prior to performing a critical task. If a user struggles with the test twice in a row, eliminating the chance of false positives, they can be moved to a task that's less mentally taxing.

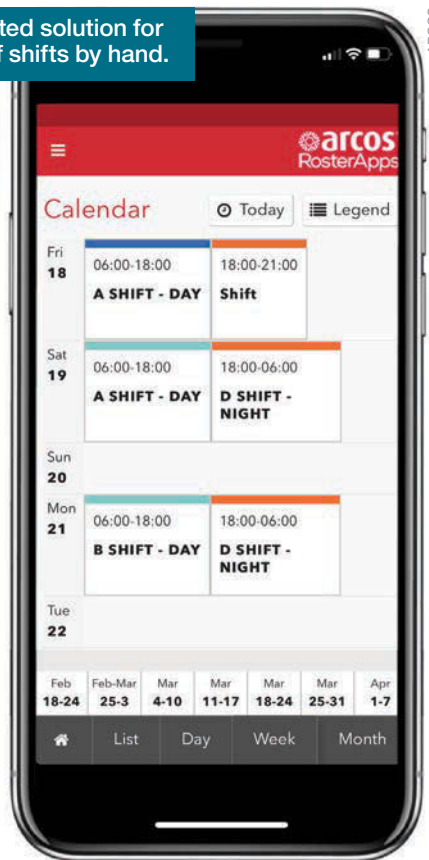
"If I have a measurement on every shift of the cognitive ability of my workforce, and there's two staff out of 10 staff members working a flight, and two of them tested that they're on the edge of stress, or impairment, or fatigue. I can have a brief conversation and say, 'You're not on the main deck loader today. You're not fueling the aircraft. You're going to be counting bags. You're going to direct traffic or something.' It just gives you

RosterApps was created as an automated solution for airline managers who struggled to staff shifts by hand.

another management tool to produce a safe environment," says Gemmell.

Sease stresses that AlertMeter isn't meant to deny people work but produce safer workplaces.

"It's about engendering a more effective leadership within your organization and recognizing the fact that your leaders rarely have time in their day to look everybody in the eye and ask them, 'Hey, did you get enough rest last night? Do you feel like you're good to go? And you're going to be safe today?' They just don't have time to do that. So, what AlertMeter is doing is it's generating conversations that would not have happened otherwise," he says.



Shift Management Satisfaction

Of course, one way to keep employees from becoming overworked and maintaining the much sought-after work-life balance is through proper shift management.

INFORM's GS (GroundStar) WorkforcePlus solution is a flexible staff scheduling solution that leverages artificial intelligence and uses an innovative deduction system that enables employers to automatically generate work schedules that accommodate specific conditions and goals, while addressing demand fluctuations, details Schulte-Sasse.

"The impetus behind the software was to meet the industry's need for having the right workers at the right place and right time. From a systems standpoint, products like Excel and existing legacy systems simply could not meet today's complex workforce management demands," she says.

Brant says ARCOS offers two software solutions. RosterApps manages airline ground crew shift management, shift






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bidding, swapping and PTO that mirrors labor union rules, and it's accessible from desktop and mobile devices. ARCOS Ascend automates the process of finding qualified, available crew members to fill open trips or shifts due to a call-off or an irregular operation (IROP).

"We created RosterApps as an automated solution for airline managers who struggled to staff shifts by hand and keep up with changing schedules because of IROPs, frequent shift trading and overtime issues that occur much more frequently in the airline industry than other industries," he says.

With any shift software, it's not so much about automating a manual process, but improving on it.

"People often want to reproduce what they're already doing manually. For example, maybe they want software to restrict the deluge of trading and shift claiming by workers, since, with their manual processes, they were overwhelmed checking rules before approving requests. But why not configure the software to automatically vet requests vis-a-vis policies, so managers can expand trading opportunities for everyone and make decisions instantaneously?" he says.

Schulte-Sasse says too that management needs to recognize that there has been a clear paradigm shift in workforce management; it is no longer driven from management down, but rather, it has become more of a two-way relationship.

"Within the aviation industry, workforce management also has become more complex with many more criteria to address. Manual processes and/or inflexible systems that don't enable adjustments to be made and interfaces easily configured are no longer viable. Today's workforce management solutions must be adaptable and able to address each clients' specific priorities across areas of cost, service level agreements, shift planning and employee satisfaction," Schulte-Sasse describes.

As such, GS WorkforcePlus can be adapted to each client's requirements.

"It is based on innovative deductive intelligence technology that enables it to adapt to a wide range of require-

ments without classical development. Its application of artificial intelligence (AI) ensures clients gain optimized staff rosters, with full views of staff assignments via an employee portal that can be accessed from any mobile device, and which enables an easy flow of information from schedulers to employees," she says.

Brant describes RosterApps as a software-as-a-service (SaaS) scheduling solution for ground personnel, utilized by airlines such as JetBlue, Southwest Airlines and United as well as ground handling contractors.

"Managers log into RosterApps with a desktop or mobile device, and the system integrates workers' schedules with time and attendance software and HRIS for real-time reports on shifts, schedule changes and openings. RosterApps simplifies filling ground crew shifts and

does it quickly, while accounting for complex scheduling rules. Workers log in to their mobile device to see and get control over bidding and swapping shifts, which boosts satisfaction and retention," Brant says.

Airlines can be up and running with RosterApps in little as a few weeks, adds Brant, but for airlines wanting to include a large amount of software integrations, the timeframe could potentially be longer.

For GS WorkforcePlus, Schulte-Sasse says there are many variables affecting how long it takes to implement the solution such as how many interfaces exist, whether the project specifications have been clearly defined in advance, etc.

"Generally, however, GS WorkforcePlus will require a minimum of three months to complete," Schulte-Sasse says. **GSW**



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Opportunities for the Cargo Handling Sector

At hubs in the Middle East and beyond, cargo handlers have modified operations to keep up with demands triggered by the pandemic and are ready for further growth.

BY MARIO PIEROBON

Cargo volumes have helped keep ground handling alive in the midst of the pandemic. As the world emerges from the final stages of the pandemic, industry experts are assessing new trends in cargo handling – specifically special cargo, the handling of “preighter” aircraft, opportunities for the cargo handling business and the industry’s continuing recovery.

Special Cargo

Special cargo is any cargo that is more challenging to handle and requires special procedures and/or treatment to accept, handle, load and carry. These special handling requirements can be due to the cargo’s nature, weight, dimensions or value, observes Burak Kurt, chief operations officer (COO) for cargo at National Aviation Services (NAS).

“Special cargo includes, but is not limited to, dangerous goods, perishables, live animals and valuables. In addition to these, in the past decade and especially over the past two years, pharmaceuticals have been in the spotlight. At NAS, we have all the systems and processes required to handle specialty cargo with teams that are well trained and up to speed,” he says.

The team members handling special cargo at each and every touch point must be equipped with the right

knowledge to ensure the required conditions are fulfilled, Kurt points out.

“Training is therefore key. The International Air Transport Association (IATA) is driving the industry standards to ensure standardization of these trainings, processes and procedures across the world and has detailed training for all types of special cargo,” he says. “When in search for a partner to handle special cargo, it is of utmost importance to find an organization which has the recommended certifications. For instance at NAS we hold the RA3, ISAGO and security clearance certifications.”

‘Preighter’ Aircraft and Cargo Loading

If one compares the ratio of freighters versus passenger aircraft, freighters are

With constrained global cargo capacity due to pandemic-related restrictions, shippers and freight forwarders have been increasingly opting to transport cargo through Dubai.





relatively rare within the fleet of recognized passenger airlines, observes Kurt.

“Generally, flag carriers have relatively smaller freighter fleets whereas privately owned, and most commonly low-cost carriers operate mostly only passenger aircraft,” he says. “In a similar way, looking at the world’s leading air cargo only operators, it can be observed that generally their feet sizes are small compared to passenger airlines. Considering that roughly 35 percent of the cargo transported around the world, by value, is carried by air, it is noteworthy to mention that roughly half of this cargo is carried in the belly of passenger flights.”

In response to the strong air cargo market demand for the rapid, reliable and efficient transportation of essential commodities, several airlines introduced additional cargo capacity during the pandemic by using passenger aircraft with seats fully or partially removed from the cabin, highlights Guillaume Crozier, senior vice president for UAE Cargo at dnata.

These passenger aircraft converted for carrying additional freight have been referred to as “preighters.”

“To adapt to changing customer needs, we enhanced services, improved processes and trained more than 500 Dubai-based employees to safely and efficiently handle passenger

planes carrying cargo only,” he says. “With no existing industry standards to refer to, we built the necessary procedures from scratch in collaboration with key stakeholders, including IATA and several airline customers. To ensure the procedures were safe, trials were conducted at Dubai International (DXB) using various loading and unloading methods across both narrow- and wide-body aircraft. This allowed us to identify the best and safest procedures to serve cargo-in-cabin flights,” says Crozier.

Loading of cargo onto freighters requires the same resources as passenger flights, together with some adjustments, according to Kurt.

“High loaders are required to be main deck as opposed to lower deck, ULD trolleys may need to be longer depending on the sizes used for the flight in question,” he says. “Special cargo may have specific requirements such as a crane for oversized cargo. Regardless of aircraft type, special arrangements are again required for valuable cargo, live animals and/or human remains.”

Aviation consultant Ivar Busk affirms that transforming passenger aircraft into cargo aircraft is also a booming business.

“The growing demand for cargo transport together with the extreme price increase has made it financially interesting to use those smaller cargo aircrafts. We now see many conversions of 15-20 years old aircraft, e.g., B757, B737, and A321,” he says. “If these are not modified with a cargo door, one can use normal high loaders and other loading devices. Otherwise there is the need for the same equipment as for ‘normal’ freighters.”

Opportunities Ahead

Kurt believes that there are opportunities for the development of the air cargo value chain at every level.

"Integration of technology into the value chain is one of the most predominant opportunities, to speed up the customer experience as well as reduce lead times, ensure data integrity and facilitate interorganization communications," he says. "Furthermore, I see a lot of scope for the development of 'smart warehouse equipment' to assist in addressing the time-consuming processes within warehouses today."

According to officials at dnata, digitalization and automation offer valuable opportunities for the cargo industry looking ahead.

"This year we will continue our digital transformation journey to provide the best possible services to our customers through advanced solutions. We will launch a next-generation e-commerce platform which will take Calogi, our existing community platform, to a whole new level," says Crozier. "It will allow stakeholders to conduct business with their customers and interact with authorities on one platform, sharing information and settling payments using their Calogi credit account."

dnata's customers will be able to integrate the platform into existing workflows through application programming interfaces (APIs) and take advantage of all innovative functions while using their own system, affirms Crozier.

"The platform will also help customers simplify existing processes, without investing in multiple systems. Furthermore, it will enhance sustainability by promoting paperless and cashless trade through collaboration and automation," he says.

dnata is committed to digitizing its largest operation in the UAE by the beginning of 2023 by launching its 'OneCargo' Terminal Operator Solution, adds Crozier.

"Artificial intelligence-driven tools and analytics provide enhanced visibility on sales and business performance, allowing customers to match real-time demand with available



Digitalization and automation offer valuable opportunities for the cargo industry looking ahead.

capacity for maximum profitability," he says. "In addition, OneCargo eliminates all redundancies and manual check sheets, substantially improving operational efficiency."

Ground Handling Business Recovery

As far as dnata is concerned, Crozier says that with constrained global cargo capacity due to pandemic-related restrictions, shippers and freight forwarders have been increasingly opting to transport cargo through Dubai.

"There has been a massive growth in import general cargo volumes, including fashion accessories, electronics and fast-moving consumer goods. Among the various categories of cargo, mail and courier have shown steady increases as compared to pre-pandemic volumes, indicating a rising trend with e-commerce shipments," says Crozier. "Sea-air solutions are increasingly sought after at Dubai, given the city's strengths as a logistics gateway to markets in the Middle East, Europe, Asia, Africa and beyond. Reflecting the strength of the markets for e-commerce and health products, we expect continued robust demand for our cargo services in 2022."

Looking further ahead, Kurt believes that the ground handling industry is set for recovery.

"The medical impact of COVID-19 is reducing as time passes; the latest Omicron variant is indeed significantly more contagious, but it is having only minor physical impacts on the patients. Other variants are significantly less common; and hence, the global perception of risk appears to have reduced," he says. "This is leading to both business and leisure travel to pick up, resulting in flight numbers and load factors picking up. Naturally as flights take off and land, the demand for ground handling will increase." **GSW**



AI driven tools and analytics provide visibility on sales and business performance, allowing customers to match demand with available capacity.

ABOUT THE AUTHOR

DR. MARIO PIEROBON

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



The Future of Sustainable Aviation Gasoline Fuel

BY CURT CASTAGNA

Last September, the Biden administration announced a new plan to advance the future of sustainable fuels in the aviation industry and make progress toward the nation's climate goals. The executive actions are intended to promote the production and use of billions of gallons of sustainable fuel that will result in a 20 percent reduction in aviation emissions by 2030 – with the ultimate goal of having fully zero-carbon aviation sector by 2050.

The plan also outlined steps to coordinate efforts across the federal government, aircraft manufacturers, commercial airlines, fuel producers, airports and non-governmental organizations to transform the aviation sector, boost the economy and tackle the climate crisis.

At the national level, the Federal Aviation Administration (FAA) and Environmental Protection Agency (EPA) are partnering to remove lead from aviation gasoline (avgas), which is the

only remaining lead-containing transportation fuel in the U.S. The major challenge is to remove the use of leaded aviation fuels for piston engine aircraft without adversely impacting the existing general aviation fleet.

Currently, aviation represents approximately 11 percent of U.S. transportation-related emissions. Owners and operators of more than 190,000 piston engine aircraft operating in the U.S. rely on 100LL avgas to power their aircraft. Achieving a sustainable aviation industry requires improvements in both aircraft technology and operations. While electric and hydrogen-powered aviation have been identified as options for local and regional travel in the future, the deployment of alternative aviation fuels has been identified as the key to unlocking sustainable long-haul travel and is a critical first step.

However, the adoption of sustainable aviation fuels and phase-out of leaded avgas presents many challenges to the general aviation industry that require both innovation and

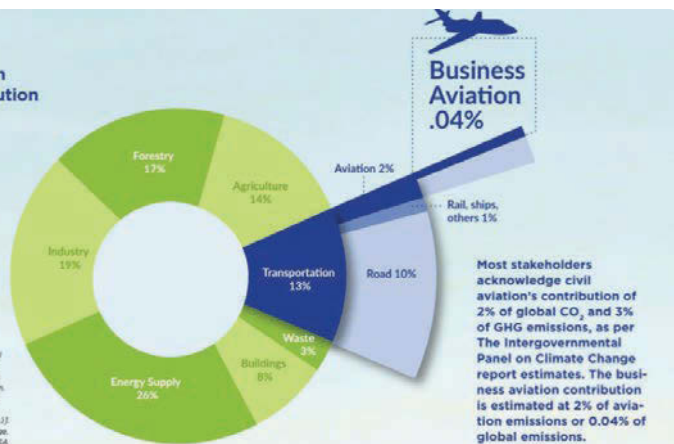


BUSINESS AVIATION COALITION FOR SUSTAINABLE AVIATION FUEL



Figure 1.
Business Aviation
Sector's Contribution
to Global GHG
Emissions

Source: IPCC (2014), Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Katten K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeyer, B. Klemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Meyer [eds.], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.



leadership. First, no current unleaded fuels qualify as a drop-in replacement for 100LL avgas for 100 percent of the fleet, and the FAA requires type certification for engines and aircraft to use different fuels. Second, the limited quantity of unleaded fuel being produced is not widely available for airports. And, third, the entire aircraft fleet and engines do not satisfactorily operate with fuels less than 100 octane.

Considerable work must be done to address the environmental and regulatory challenges associated with piston aviation fuels, while protecting aviation safety and the economic health of airport sponsors, users and operators. Industry stakeholders and federal legislators must reach consensus on steps to phase out avgas in a manner that is well-organized and intentional, and recognize this must be accomplished at the national level.

In order to eliminate the one-by-one risks presented at airports where local interests seek to close airports for fuel-related emissions, this involves establishing federal legislation that incentivizes suppliers and presenting regulatory groups a feasible solution that first maintains the integrity of the national air transportation system.

For example, the Biden administration has proposed a sustainable aviation fuel tax credit to help cut costs and rapidly scale domestic production of sustainable fuels for aviation. The proposed tax credit requires at least a 50 percent reduction in lifecycle greenhouse gas emissions and offers an incentive for

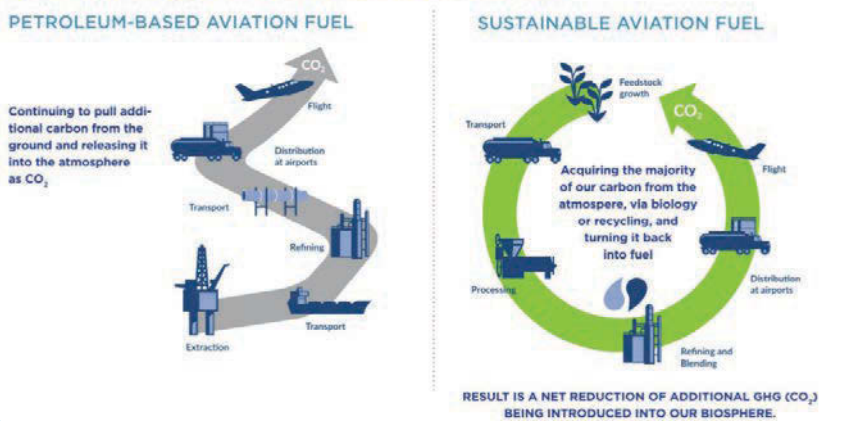
greater reductions. Other actions include a new federal challenge to increase production of sustainable aviation fuels to at least 3 billion gallons per year by 2030; up to \$4.3 billion in new and ongoing funding to support fuel projects and fuel producers; and an increase in research and development activities for technologies that improve aircraft fuel efficiency by at least 30 percent.

However, to achieve a complete conversion to unleaded avgas in the U.S., critical supply chain issues must be addressed to ensure alternative sustainable aviation fuel is widely and reliably available. At the present time, there are very limited and undesirable alternatives available, such as the use of low-tech methanol or water additives and costly diesel engine conversions.

With the Biden administration planning to release an aviation climate action plan in the coming months, it is critically important that any future deployment of unleaded aviation gas be consistent with aviation safety. To this end, a collaboration of aviation industry organizations is working to increase federal funding for the FAA Alternative Fuels for General Aviation program in fiscal year 2022. Operated by the FAA William J. Hughes Technical Center, this program has established testing methodologies and requirements to support an efficient and safe fleet-wide authorization and deployment of alternative aviation fuel.

In a letter addressed to leaders of two Congressional committees last November, aviation groups asked to increase

Figure 2. Achieving Net Lifecycle GHG Reductions With SAF



funding for the Alternative Fuels for General Aviation program from \$4.96 million to \$19 million, particularly in light of federal legislators' focus on general aviation. The letter was signed by leaders of the Aircraft Owners and Pilots Association, General Aviation Manufacturers Association, National Air Transportation Association, Experimental Aircraft Association, Helicopter Association International and National Business Aviation Association.

Through its ongoing Piston Aviation Fuels Initiative (PAFI), the FAA, fuel suppliers and aerospace manufacturers continue to partner on developing high-octane, unleaded fuel formulations that provide operationally safe alternatives to 100LL avgas. Overall, the PAFI includes four key elements: 1) a fleet-wide authorization qualification test program, 2) new alternative fuel proposals and certification, 3) the establishment of FAA safety standards, and 4) executing an informed and safe transition of the general aviation fleet to an unleaded avgas once it is approved.

Development and prescreening testing is taking place at both private and public facilities across the country, with the FAA's William J. Hughes Technical Center providing engine testing services through Cooperative Research and Development Agreements (CRADA) with the individual fuel companies. The FAA also continues to support other fuel applicants who have decided to pursue engine and airframe approvals that would allow the use of their fuel formulations via traditional certification processes.

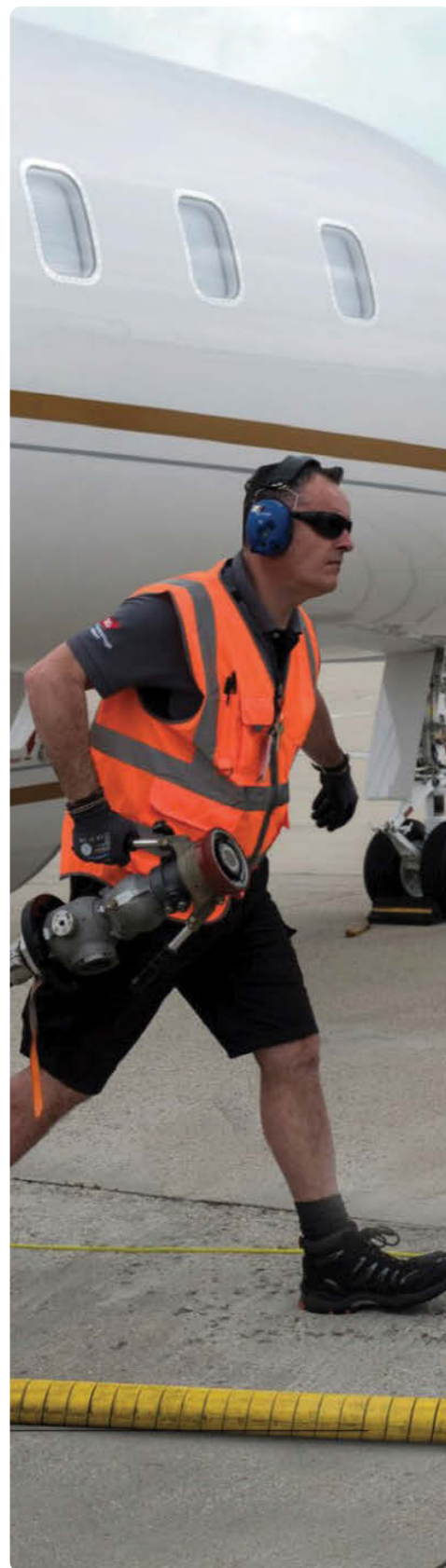
Identifying, testing and authorizing a fleet-wide unleaded avgas solution remains a difficult challenge, but one that the aviation industry is committed to meeting. While it might seem politically expedient to fast-track the process of testing and adopting a new environmentally friendly aviation fuel, it is unwise to place short-term gain above the long-term safety and economic health of the general aviation industry.

The commitment of aviation industry associations, aircraft and engine manufacturers, fuel producers and federal agencies to address concerns about lead emissions from piston aircraft remains clear. Regardless of the amount of time and effort it may take to achieve, there must be a smooth and safe transition to deploying a new high-octane, unleaded fuel that allows all general aviation aircraft to continue to fly safely and efficiently. **GSW**

ABOUT THE AUTHOR

CURT CASTAGNA

Curt Castagna is president and CEO of Aeroplex/Aerorelease Group, a member of the Los Angeles County Airport Commission, president of the Van Nuys and Long Beach Airport Associations and immediate past chair of the board of directors for the NATA. A certified private and instrument-rated pilot, he has instructed courses in aviation administration at Cal State Los Angeles for over two decades.



A SMART Way to Transport Nitrogen Cylinders

With a pivoting cylinder cradle and other user-friendly features, Semmco's Nitrogen SMART Trolley is compact and efficient.

By Rebecca Kanable

Nitrogen plays a key role in servicing and maintaining aircraft. Unlike oxygen, nitrogen is an inert gas and therefore is not flammable. Nitrogen is used in low pressure (up to 320 psi) applications for aircraft tire inflation and high pressure (up to 3500 psi) applications to service struts, accumulators and other components.

Most commonly used for inflating tires, Semmco's Nitrogen SMART Trolley offers three demountable cylinders.

Compared to other Semmco nitrogen trolleys, such as the Nitrogen Trolley – 2 Cylinder Demountable, the SMART trolley is considered an entry-level option with a more compact and efficient design.

"It's a really good, cost-effective, entry-level product for us in quite a competitive market," says William McOnie, sales and business development manager – USA, Canada and South America.

Perhaps its most unique feature is its pivoting cylinder cradle. On some trolleys, the cylinders are positioned horizontally. On the SMART trolley, the cylinders, standing upright, can be rolled onto a pivoting cradle. As a result, no lifting of the cylinders or other lifting equipment is required. Once the cylinders are in place, the cradle then is reclined to about 135 degrees and the trolley is ready to roll. To take cylinders off the trolley, the cradle again is pivoted to 90 degrees.

"It's a lot easier and more efficient," McOnie says, noting each cylinder can weigh approximately 70 pounds.

McOnie points out having the SMART trolley reduces the need to bend and lift, and therefore reduces back pain and workplace injuries.

"The cradle design is very clever," he says. "When we designed it, we were able to shave off some components, which are a nicety in the standard trolley, which enabled us to call back some material costs and offer a slightly more competitive price to the customer."



The Semmco Nitrogen SMART Trolley is designed to carry three nitrogen cylinders, which are mounted on a cylinder cradle for safe, quick and easy loading and unloading.

The design is also smaller, lighter weight and easier to maneuver around compared to the standard trolley, he adds.

In fact, the SMART trolley, which fits up to three cylinders is actually lighter than the standard trolley with two cylinders, which is made with more steel.

The use of three cylinders is not required with the SMART trolley but gives customers more capacity than a standard two-cylinder trolley. McOnie says Semmco customers generally prefer having a two- or three-cylinder capacity.

Several safety features have been incorporated into the SMART trolley. To prevent overinflation, there's automatic shutoff. The control panel also is designed with color coding (blue for low pressure and yellow for high pressure), as well as different hose and fitting sizes. Only the low pressure hose can connect to the low pressure fitting and the high pressure hose can only connect to the high pressure fitting.

The weight of the trolley without cylinders is 195 kg (about 430 lbs.). Dimensions are about 2 m (6.75 feet) by 1.22 m (about 4 feet) by 1.33 m (4.36 feet). The trolley is made with



ALL PHOTOS SEMMCO

The SMART Nitrogen Trolley is designed to be assembled quickly and can be shipped on a single pallet.

"What you get with a Semmco product is a real quality build, safety features are really thought through and tried and tested. All of our products are designed with the end-user in mind. We try to think about what issues he or she has and how can we make our products really simple but really robust and do the job they're designed to do extremely well," says Sarah McOnie, marketing manager at Semmco.

She points out a sister product to the Nitrogen SMART Trolley, the Nitrogen Portable Charging Kit, is designed to provide a quick topping up of aircraft door systems or other components. The kit comes in a bag with a double zip that allows visibility of the content gauge, regulator and fill pressure gauge. Any nitrogen trolley can be used to refill the cylinder.

"What our customers really like is that they know if they've bought a Semmco product, it's going to last them for years and years," she says.

The SMART trolley is supplied as a transport pack, disassembled on a pallet for easy shipping. According to the product data sheet, assembly is simple and quick.

Semmco also offers an Oxygen SMART Trolley and related products.

Semmco, a British engineering company established in 1993, specializes in ground support equipment and aviation access platforms. The company's headquarters is in the United Kingdom, and additional offices are located in Texas and Dubai. **GSW**



With the nitrogen cylinders in a pivoting cradle, no lifting of the cylinders is required.

a powder-coated, mild steel chassis and frame. The chassis incorporates front-axle bearing steering and safe wheel/brake parking with the tow bar in a vertical position.

According to Semmco officials, calibration of the gauges every three years would provide sufficient maintenance, though some companies and organizations may require calibration annually or at another interval. The SMART trolley control panel can be removed from its recessed steel cabinet by unfastening four screws.

Product Hangar



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A Shared History

How Global Ground Support's beginnings included GSE Today founder George Prill.

BY JOSH SMITH

In the February issue, we kicked off our 30th anniversary celebration by highlighting the evolution of the magazine and its goal to serve the industry. In that column we also encouraged all of our readers and industry friends to celebrate with us, so we can highlight the people and companies that make this segment of the industry so unique.

Shortly after this call for stories, we heard from representatives at Global Ground Support and how their deicing vehicle manufacturer's history was intertwined with our own past here at *Ground Support Worldwide*.

The common link between the two was our magazine's founder George Prill.

"If it wasn't for George Prill, we wouldn't be here," Laurie Kyle, director of sales and marketing at Global Ground Support, said.

Leonard Martin, a former director at Air T, explained Prill was a board member at Air T while also producing our publication – then called *GSE Today*. According to Martin, Air T was looking for an opportunity to expand. At the same time, Terex Crane was looking to discontinue its Simon Aviation line of deicer vehicles. Prill suggested Air T acquire Simon.

"We bought the deicing business from them," Martin recalled. "There was a vacant building 100 yards up the road from where they were. So, we just moved the operation up the road and hired a number of their people that were involved with the deicing business that they were going to lay off.

"That's the way that Global got started."

Later, on Sept. 1, 1997, Simon Aviation rebranded as Global Ground Support.

This acquisition was in line with Prill's big picture vision for the ground support equipment industry, according to Martin.

"George's philosophy was, we've got



Global Ground Support equipment was originally produced under the Simon Aviation brand. After being acquired by Air T, the deicing manufacturer changed its name in September, 1997.

the big companies ... but the ground equipment is splintered out into so many pieces," Martin recalled. "George got the idea and decided to pull the GSE equipment together. He started the GSE magazine and started trade shows once a year in Las Vegas so everybody could show their own wares.

"Through that process, then we became aware from the airline side, of a lot more equipment and a lot more vendors," he continued. "He pulled that support equipment piece together and it let you meet and know all the people from all the airlines that were responsible for that end of the business."

The ground support industry is tight-knit, and there are certainly more stories like this one. Again, we encourage you to help us celebrate our milestone year by helping us reflect on the industry's beginnings as well as looking ahead to where the industry may take us over the next 30 years.

Please stay in touch by emailing Josh@AviationPros.com. **GSW**



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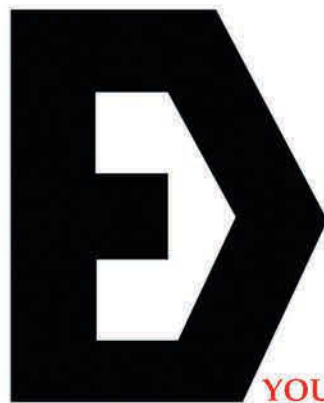
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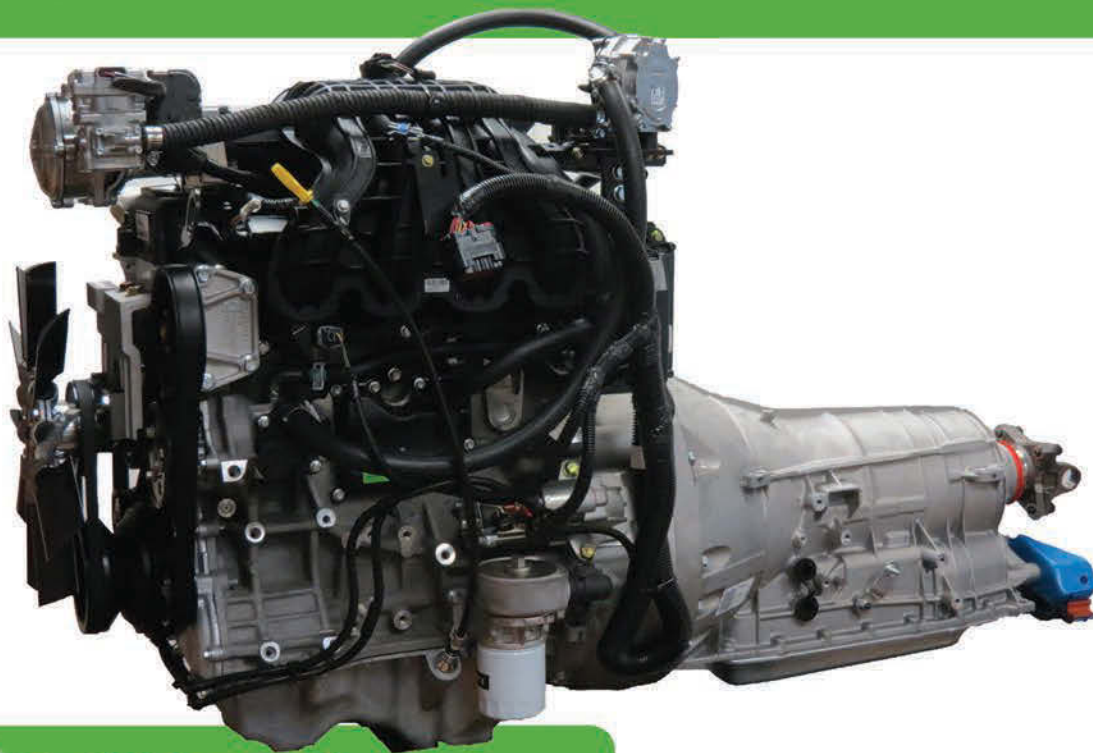
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