

GROUND SUPPORT

WORLDWIDE

May 2012

CWO Greg McDermott: Team

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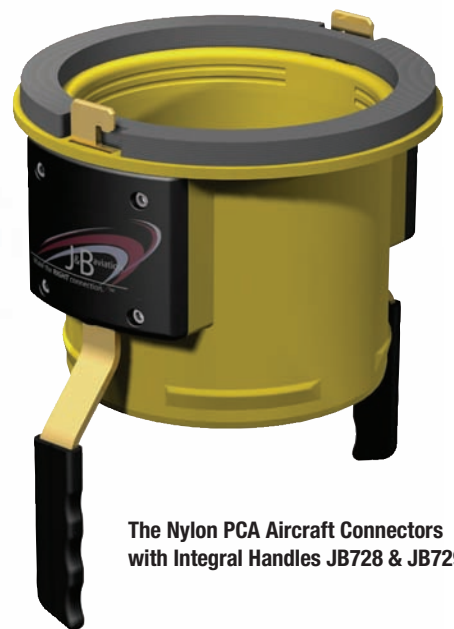
LEADER

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United States Coast Guard Chief Warrant Officer Greg McDermott has spent the past 12 years in charge of GSE purchasing and training for the USCG's only Aviation Logistics Center.



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INCHEON INTERNATIONAL AIRPORT EXPANDS CARGO CAPABILITIES

Just a decade after opening, ICN is already the world's fourth largest cargo airport and has a multibillion dollar plan to become even larger.



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Delta's Unusual To-Do List Gets Bigger

What's more unusual than an airline running a refinery? Why an airline making employees use seat belts on the ramp, of course.

Last month, Delta Air Lines bought an oil refinery for \$180 million or, rather, the list price of a new wide-body jet. Put that way, it doesn't sound so strange.

Still, it does sound like a risky marriage. (But aren't they all?) Wall Street, for one, thinks the airline got a good deal with investors sending Delta stock up almost 2 percent the day the deal was announced.

Like all airlines, Delta offsets its fuel bill – almost \$12 billion last year – with hedging contracts. Delta's fuel cost per gallon, however, still increased more than 40 percent between 2009 and 2011.

For its part, Delta says it can save \$100 million this year and as much as \$300 million annually in the future. To run such a specialized business, Delta has hired Jeffery Warmann, a 25-year oil industry veteran.

While Warmann has his work cut out for him, how about the manager Delta puts in charge of installing seat belts and making sure employees use them on some 6,000 baggage handling vehicles around the country?

News that Delta agreed to an OSHA order to do just that came a couple of weeks before the oil deal broke. To be sure, someone died so we don't mean to make light of the matter one bit.

We did, however, find out more details on the accident. This part we knew: A tug driver who was not wearing a seat was thrown onto the pavement and died. What we didn't know was that the accident was the result of the tug colliding with a food service truck.

Seat belt or not, it was a terrible accident and reminds everyone to be safe out there.

What's your take on the order? We asked our *Ground Support Worldwide* LinkedIn group and received a lot of feedback. Most wondered how Delta could enforce the order, particularly for the "old rampies."

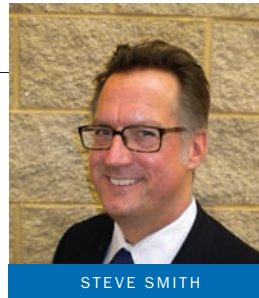
Here's one to sum up enforcement: "I've seen seat belts on forklifts and GSE that were tied in knots behind the seat or wadded up under it. I stress the importance of using installed belts to ensure benefits in case of accident or injury! Like anything it will be the Supervisor that will have to enforce it and he MUST have support from the company."

And another to sum up the need for seat belts:

"Most ramp equipment has no soft ride. It's like riding a skate board hard as a rock. It actually hurts to ride. So if you hit a bump on a hard seat belt loader. You can be ejected."

OSHA certainly plans to extend this order to other airlines.

Our LinkedIn Group is certainly a good place to chime in. And you can always call me directly at 920.563.1644 or email me at steve.smith@AviationPros.com.

STEVE SMITH

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June 20-22

Airfield Engineering and Asset Maintenance

Hong Kong

www.airfieldengineering.com/Event

July 23-29

EAA AirVenture

Oshkosh, WI

<http://www.airventure.org/>

Business Buzz

BBA Reports 1Q Revenue:

BBA Aviation Plc. said its first-quarter group revenue declined by 1 percent after adjusting for fuel prices. Revenue in Flight Support slid 8 percent after adjusting for fuel prices. The Flight Support unit, particularly ASIG, was negatively impacted by North America's warm winter resulting in limited deicing revenue.

WestJet Shows Off Electric GSE:

On Earth Day last month, WestJet

showcased its baggage tug run on a lithium polymer battery system developed by Corvus Energy. The pilot program began last October at Calgary International Airport. This month, the airline will operate two more electric tugs at Yukon's Erik Nielsen Whitehorse International Airport.

Airlines Gain Confidence: Top managers at global airlines are confident of an uptick in demand for cargo and passenger business over the next 12 months, according to the survey conducted by the International Air Transport Association. Airline industry confidence improved slightly this

month on better passenger traffic figures over the last quarter.

Boeing Reports Big Profits: Airlines around the world are updating their fleets with new, more-fuel-efficient planes, and that helped Boeing post a 58 percent rise in profits for its first quarter.

Toyota Wins Best Product: Toyota Material Handling, U.S.A., Inc., was honored by *Plant Engineering* magazine's annual "Product of the Year" awards program for Toyota's 8-Series 4-Wheel AC electric lift truck. The product won the highest ranking

Delta Agrees To OSHA Order To Install Seat Belts In GSE



Delta Air Lines has agreed to install seat belts in GSE under a settlement with the Occupational Safety and Health Administration, as a result of the 2010 death of an employee who was not wearing a seat belt and was ejected from a baggage tractor.

OSHA said Delta violated 29 Code of Federal Regulations 1910.132, which requires employers to provide employees with personal protective equipment, which, in this case, means seat belts.

In the settlement, Delta agreed to pay an \$8,500 penalty and install

seat belts in vehicles that don't have them, train employees to use the seat belts, enforce the requirement and report results of a monitoring program back to OSHA.

The settlement covers 16,000 Delta employees, 6,000 baggage handling vehicles and Delta operations at 90 airports that fall under OSHA federal jurisdiction. Delta said it will extend the requirement to all employees and to international operations.

For its part, OSHA also said it will address this hazard throughout the airline industry. The agency recently sent a hazard alert letter to airlines across the nation reminding them of the seat belt requirement.

Swissport Adds To Its Schiphol Business

Swissport International will take over passenger and cargo service for Korean Air Lines at Amsterdam Schiphol Airport. The airline flies three weekly B747 freighter services to and from Schiphol, in addition to three weekly passenger services that also carry cargo.

Korean is the just the latest in a number of new cargo customers for Swissport at Amsterdam this year. Other customers include MNG Airlines; FlyBe; South American Airways; Germania; Sky Airlines; Gabon Airlines; Finnair; Stabo Air; Middle East Airlines; Imperial Cargo Airlines; and a trucking partnership with Egypt Air Cargo.

Another key customer, Jade Cargo International, is also set to return to Amsterdam shortly. The Shenzhen-based B747 freighter operator suspended flights last December in order to restructure its financial arrangements. A restructuring agreement has now been reached with UniTop Group, a Chinese logistics and transport company.



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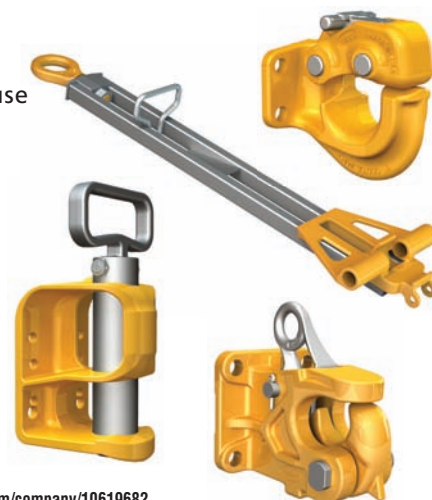
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award in the Material Handling Systems category.

PrimeFlight Lays Off 300: PrimeFlight Aviation Services will lay off about 64 people at San Antonio International Airport after losing a contract with Delta Air Lines. The company also expects to lay off 276 employees at Bush Intercontinental Airport after losing a contract with United Airlines.

ASIG Receives Record Eight UK Safety Awards

ASIG received a record eight HSSE (Health, Safety, Security & Environmental) Awards under Shell Aviation's Goal Zero Awards program. The awards cover ASIG fuel operations in the United Kingdom, where ASIG provides a combination of commercial aircraft refueling and fuel facility management and operation services on behalf of Shell Aviation.

To qualify for an award, an operation must meet compliance guidelines under the program. These include the following

- Competence and training.
- Corrective actions.
- Maintaining zero injuries, spills and accidents.

"We are extremely proud of our employees who have demonstrated a real commitment to achieve an incident-free work environment for ASIG and for our customers," said Pat Pearse, managing director, ASIG Europe. "ASIG also has a program called ZIPP (Zero Incident Process + Philosophy) which is clearly aligned with the intention of Shell Aviation's Goal Zero initiative."

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DOE Announces \$2.5 Million To Fund Fuel Cell Electric GSE Projects

The Department of Energy will provide up to \$2.5 million this year to study fuel cell-powered baggage tractors. The DOE's Fuel Cell Technologies Program seeks applications for up to three projects to demonstrate and deploy fuel

cell hybrid GSE at airport and/or air freight distribution center sites. Packaged solutions for polymer electrolyte membrane (PEM) fuel cell systems (5-20 kW) fueled by hydrogen with the ability to power a baggage tractor with 3,000-6,000

lbs towing capability for a minimum of 10 hours of continuous operation and 5,000 total hours are sought. For more information, go to <https://eere-exchange.energy.gov>. The FOA number is DE-FOA-0000701. The close date is June 11.

IATA Cargo Awards Schiphol: IATA Cargo presented a Certificate of Achievement to Amsterdam Schiphol Airport in recognition of its "outstanding performance in supporting and helping to adopt e-freight in 2011." Incheon Airport and Singapore Changi Airport, which have signed memorandums of understanding with Schiphol, for the joint promotion of e-freight, also received similar certificates.

TIACA Condemns Flight Ban: The International Air Cargo Association condemned the verdict of a German judge who endorsed the night flight ban for cargo carriers at Frankfurt Airport. TIACA claims the decision will damage the city's reputation as one of the world's premier gateways for international trade and harm the local and national economy.

Partnerships/ Acquisitions/ Contracts

ATS Signs First Contract With Virgin Atlantic: Virgin Atlantic appointed Airport Terminal Services to provide passenger service at Vancouver International Airport. The deal is the first contract ATS has received from the airline.

Baltic Ground Services Signs With Aeroflot: Baltic Ground Services UAB signed a contract with Aeroflot to provide the airline with passenger and ground handling services at Vilnius International and Sheremetyevo International airports.

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ASIG At BWI: ASIG has commenced full ground handling operations for British Airways at Baltimore/Washington Thurgood Marshall International Airport.

United Express Signs With Eagle:

Eagle Ground Handling, American Eagle's ground handling business, was awarded a contract to handle United Express at nine U.S. locations in Texas, Louisiana and New York.

People In The News

Craig Smyth, managing director of Menzies Aviation received a \$373,900 bonus to take his total compensation last year to \$943,697 as earnings from his half of the business outstripped the company's traditional distribution operations for the first time.

Robert Lewis was named president and CEO of Pentastar Aviation. He succeeds Rick Maloney, who retired from Pentastar last month after a four-decade aviation career.

Russian Safety Agency Blames ATR Crash On Failure To Deice

United Press International reported that Russia's transportation safety agency blames icing for the crash of a passenger plane that killed 33 people on April 2.

A spokesman for Rostransnadzor said weather had caused icing on the UTair ATR 72 plane, but it did not undergo deicing before

departure. Rostransnadzor said the plane spent about six hours over night in snow and rain on the apron at Roshchino Airport. A Rostransnadzor investigation found a number of UTair planes had not been deiced. Rostransnadzor also found violations of working time, training failures and lapses in maintenance.

Lewis was president of Everest Fuel Management and a senior vice president at Sentient Flight Group.

Current Pinnacle Airlines COO John Spanjers will replace Sean Menke as chief executive. Menke resigned, but will help with the leadership transition.

Tom Wathen, chairman of The Wathen Center presented John Lyon with a Lifetime Achievement Award,

which recognizes service to the Wathen Center and Flabob Airport. Lyon spent 12 years as the first president of the Wathen Foundation. During that time he also provided pro bono legal counsel for the foundation. The center's library has also been named the John and Melinda Lyon Library. The center is a nonprofit corporation dedicated to education through aviation.



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Chief Warrant Officer Greg McDermott stands in front of a new fleet of SATS, a standardized tow tractor developed originally for the United States Army.

CWO Greg McDermott: Ground TEAM LEAD

United States Coast Guard Chief Warrant Officer Greg McDermott is in charge of GSE purchasing and training for the USCG's only Army

The first words our Ground Support Team Leader wants to say is that the award is for the team not him.

"I just got the credit," says Greg McDermott, chief warrant officer, United States Coast Guard.

For the past 12 years McDermott has served as support equipment chief and assigned to the Aviation Logistics Center, Elizabeth City, NC.

McDermott manages a staff of seven, oversees GSE inventory worth more than \$500 million with an annual operating budget of \$6 million that supports 26 USCG air stations and more than 200 aircraft throughout the United States and Puerto Rico.

"That is everything from fuel trucks to test kits," McDermott explains.

His role fits into the center's Engineering Services division – one of 12 divisions at the center, but one that is a "catch-all for us and crosses all platforms," McDermott adds. That generally includes maintenance, engineering, procurement, supply and information.

The center's motto says it best: "We Keep 'Em Flying." USCG aviation is renowned for its high level of readiness. At any given time, more than 50 aircraft must be ready to fly.

While aircraft may take the lead, we ran across an armed forces newsletter that referred to military GSE

as "the forgotten enabler." Without it, nothing is likely to move even an inch.

McDermott's got more than a few things on his plate. His nomination for our Team Leader Award says he "... purchased equipment in support of those air stations to include SATS tractors, fuel trucks, C-130 engine cranes and helicopter maintenance stands. He conducted a Coast Guard-wide electrical assessment of all air stations, Logistics Compliance Inspections, managed all ground support training (fuel trucks, GPUs, tow tractors) and is the CG representative to the Joint Panel for Aviation Support Equipment (JPAVSE)."

That's a lot to unpack so let's focus on standardization of GSE. That factor is important for two reasons:

- **Training:** It's a key role for McDermott. In many cases, he's training teenagers fresh out of high school for big responsibilities. "One of our challenges is that we are very good at what we call 'pipeline' training to service aircraft," he says. "But that still leaves a lot of training for all the ground equipment that goes into servicing aircraft."
- **Money:** "These are lean budget years," McDermott explains, "so we need to know what we are going to do with what we get and make it work and make it last." Standardizing new GSE also saves money through the equipment's life cycle since all the spare parts needed throughout the years are also standardized, too.

SATS

We talked with McDermott shortly before a rep from NMC-Wollard Inc. would spend a week at the center to offer training on some of the newest pieces of GSE for the USCG.

This past February, the United States Army teamed up with the USCG on the Standard Aircraft Towing System joint venture. The first of five SATS rolled off the NMC-Wollard's production line that month and were delivered to the USCG.

Support ER 2012

McDermott has spent the past 12 years in Aviation Logistics Center.

By Steve Smith

Every four years, each of the United States Coast Guard's more than 200 aircraft undergoes a complete teardown and inspection. In any one year, the Aviation Logistics Center overhauls about 40 aircraft.

Standardization is one of the keys to today's military procurement. As we mentioned, McDermott serves as the USCG's rep to the JPAVSE, which emphasizes standardization of Aviation Ground Support Equipment (AGSE) for the Department of Defense and other uniformed services such as the USCG.

"Everyone in the armed services needs to do more with less financial resources," McDermott says. "The SATS is a great example of this."

The SATS is a tow tractor by any other name that the Army's already relied on for the past two years to reposition rotary and fixed-wing aircraft for its aviation missions. To date the Army has bought nearly 500 of the tow tractors and the USCG will begin using 100 tractors this year.



McDermott joined Steven Ansley, a lieutenant colonel in the Army and product manager for the Army's AGSE, during the roll out ceremony at NMC-Wollard's Wisconsin plant.

"SATS represents the mutually beneficial scenario to both government and business that occurs when

a system that one service is using can be incorporated for use by another, with little or no modifications, and our industry partners are flexible and responsive enough to accommodate the increased production requirements," Ansley said at the event. McDermott says the SATS is a little

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different to service than the towing equipment the USCG had been using. But thanks to the “train the trainer” education NMC-Wollard was about to present, USCG personnel would be able to service the vehicles no matter where they happened to be stationed. The training will be part-class room and part-hands on. The center has five SATS so everyone will get the opportunity to turn a wrench.

“Standardized equipment just makes training that much easier,” he explains. “We still have some oddities that require specialized maintenance skills, but for the most part, we are moving away from that.”

Standardizing equipment doesn’t just mean choosing one vehicle that will work for more than one branch of the military. It also can mean a better deal by making contracts performance-based and whittling down the manufacturers to those prepared to meet those standards.

For example, McDermott says the USCG currently buys three different fuel trucks, down from 12 when he first arrived at the center more than a decade ago.

“Some of our bases have just one unit, so eliminating downtime is important,” he says. “When the truck is down so is the aircraft, or we’re forced to purchase fuel at full cost.”

McDermott singled out fuel trucks from Westmor as a prime example of high standards right down to the paint job.

“Paint quality is probably an overlooked feature, but it is the best paint job I have ever seen on a truck,” McDermott says. “If you don’t put paint on a metal edge or over welding there will be corrosion. In a sense, it seals our investment from corrosion.”

As for training, the USCG typically sends crews directly to Westmor’s Minnesota facility.

ELECTRIC GSE

Standardization also means buying more electric GSE.

“I have a letter from my commandant that says we should go green whenever possible,” he says.

Just a decade ago, the USCG had no electric GSE. None. Now it operates more than 60 electric tractors, mostly from Tug Technologies, but also from LEKTRO.

With lean budgets in mind, McDermott also talks a lot about “cost avoidance.” For example, take

servicing electric equipment vs. traditional fossil fuel models.

“A diesel tractor takes about 50 man-hours annually to maintain,” he explains. “With an electric tractor that time is cut to 16.” With less moving parts, that also means stocking less spare parts.

Cleaner power also makes it easier to station the electric equipment around the country. McDermott




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Aviation Logistics Center: 'We Keep 'Em Flying'

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The Aviation Logistics Center, Elizabeth City, NC, provides centralized logistics support for all USCG aviation missions.

That means a lot of things, but the one item that caught our eye was "depot level maintenance."

Basically, that's the total overhaul of an airframe. This work is done every four years on each of the USCG's more than 200 aircraft. It includes a complete teardown and inspection. Any required modifications or

upgrades are completed at this time, too.

In any one year, the center overhauls about 40 aircraft, such as the H-60 and H-65 helicopters and HC-144A and C-130H aircraft, and makes modifications to another 30.

Here are a few other ways the center keeps 'em flying:

- **Aircraft Repairs:** The USCG's central point for all aircraft repairs. While major work gets done during depot level maintenance at the center, other USCG stations use technical publications produced by the center to complete minor repairs. The publications include technical drawings and maintenance procedure cards. The center also provides a call center

staffed by technical experts who assist the stations with more complex repairs.

- **Spare Parts:** The center also manages a central warehouse for a \$1.2 billion inventory of spare parts. Every day the center also repairs 500 component parts and manufactures 100 piece parts.
- **Computerized Coordination:** In an effort to coordinate the maintenance and supply efforts between the center and at the 26 bases, the center created the Asset Logistics Management Information System, an integrated computer-based system. ALMIS provides tracking of maintenance, flight time, training and allows for real time informed data-based decision making.

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The military refers to its GSE as “the forgotten enabler.” At any given time, more than 50 United States Coast Guard aircraft have to be ready to fly. But without GSE, the aircraft wouldn’t move an inch.

mentioned Southern California and New Jersey for tough environmental standards for traditional equipment.

“We may lose time and money to prepare for different tests,” he explains. “We can avoid that extra cost in terms of money and time with electric equipment.”

In a matter of speaking, the center’s also standardized its own procedures to recognized standards. In June 2006, the center reached a significant milestone in USCG history by being the first Coast Guard unit to achieve a fully integrated ISO 9001 (Quality) and 14001 (Environmental) business system.

Additionally, the center has been actively engaged in Lean/Six Sigma process improvement initiatives that have resulted in more than \$12.8 million in projected cost avoidances as well as significant increases in process efficiencies.

McDermott will be retiring this year capping off nearly three decades of service to the USCG.

“I typically have 20 different projects to manage, but it makes the day go faster,” he adds.

To keep the work flowing smoothly, McDermott says the key is to not micromanage his team.

“I empower my crew – get them involved in the budget process and

Greg McDermott

**Chief Warrant Officer
United States Coast Guard**

For the past 12 years, Greg McDermott has been the chief of support equipment (GSE) in the Engineering Services Division assigned to the Aviation Logistics Center.

Enlisting in 1983, he graduated as a member of the Coast Guard Chief Petty Officer Academy Class XXXVII in 1996 and received his commission as a Chief Warrant Officer in 1999.

His other assignments include tours at USCG air stations in Alaska, Oregon and Texas and aboard the Coast Guard Cutter Point Bonita. McDermott is a qualified HU25 Sensor System Operator and HH65 Flight Mechanic.



provide them the information they need to make decisions,” he explains.

McDermott will leave behind a 20-year road map on what to do with GSE. A standardized deicing vehicle that, like the SATS, can be used by more than one branch of the military is currently on the agenda. McDermott’s also interested in hydrogen fuel cell power, too.

“I’m fascinated by how the industry is evolving,” McDermott says, adding that our recent Cygnus Aviation Expo – where he officially picked up

his Team Leader Award – offered a great opportunity to see equipment and meet product managers.

“I’m usually in uniform so I’m an easy target,” he says. But he made a point to stop at practically every booth to see what was on the market. “Something as small as casters can be made better and at a lower cost. There were also manufacturers that honestly we haven’t bought anything from in 20 years, but it’s still good to see the equipment and talk with the managers.”



Incheon International Airport Expands Cargo Capabilities

Just a decade after opening, ICN is already the world's fourth largest cargo airport and has a multibillion dollar plan to become even larger.

By Manik Mehta

Management at Incheon International Airport, Seoul, South Korea, is aggressively promoting the airport's cargo business and undertaking a multibillion dollar building campaign to handle 7.7 million tons of cargo annually by 2020.

"With encouragement from our government, Incheon is keen to push its cargo traffic," Young-Geun Lee, the executive vice president of ICN told *Ground Support Worldwide* during a briefing at the airport. "The cargo sector is viewed as an important component of our economy."

ICN is already one of the world's key cargo airports. Just 10 years after opening, the airport has increased its annual cargo tonnage by 125 percent.

Airports Council International currently ranks ICN as the fourth largest



cargo airport based on 2010 data, up from No. 15 in its first year of operation. According to ACI, ICN handled 2.68 million tons of cargo in 2010, a 16 percent increase from 2009.

CURRENT FACILITIES

ICN's current cargo facilities are spread across 21.6 million square feet and include separate terminals, warehouses and other related facilities. The immense South Cargo apron can park 32 B747 aircraft at the same time.

Last February, Incheon International Airport's biggest air cargo customer, Korean Air, became the world's first airline to operate both the 747-8 and 777 freighters. The 777 freighter is Korean Air's first twin-engine freighter and will allow the airline to open new markets in Europe.

Beyond plenty of elbow room, ICN's Air Cargo Information System offers a 100 percent online system that lets forwarders book, check and track shipments and generate electronic airway bills.

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Incheon Airport

Other pioneering IT systems include UNI-PASS, an online clearance system that allows export clearance within 2 minutes, import clearance inside of 3 minutes and tax payment within 10 hours.

The introduction of RFID technology in 2010 for tracking practically all imported goods has further reduced processing times by up to 3 hours.

An unlikely 72-hole golf course separates cargo operations from the Airport Logistics Park opened in 2006 in a bid to make the airport



Young-Geun Lee, executive vice president of Incheon International Airport, outlines his airport's \$2.7 billion plan to improve cargo traffic to handle almost 8 million tons of cargo annually by 2020.

a more attractive proposition for transit cargo arriving from China and traveling between South Korea and Europe, and North America and Southeast Asia.

EXPANSION

Lee outlined ICN's ambitious \$2.7 billion expansion plan for cargo infrastructure. Blessed with land around it, ICN has an edge over other airports in the region, particularly Japanese and Chinese airports

where expansion is precluded by limited space.

The airport is expanding cargo area by 1.1 million square meters primarily for express cargo and adding 500,000 square feet to the logistics park primarily for manufacturing.

"Korea is keen to attract companies interested in setting up manufacturing operations because, in the final analysis, manufacturing will provide a

strong impetus to the air cargo sector," Lee says. "Korea may not be a low-cost economy, but it is also a reliable source of high-quality products and services."

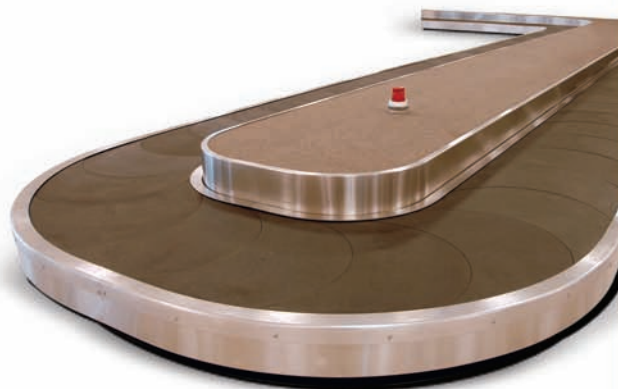
The airport is also partnering with the corporate sector in an effort to achieve greater synergies. ICN, for example, is working closely with ASML, the world's largest supplier of machines used to produce computer

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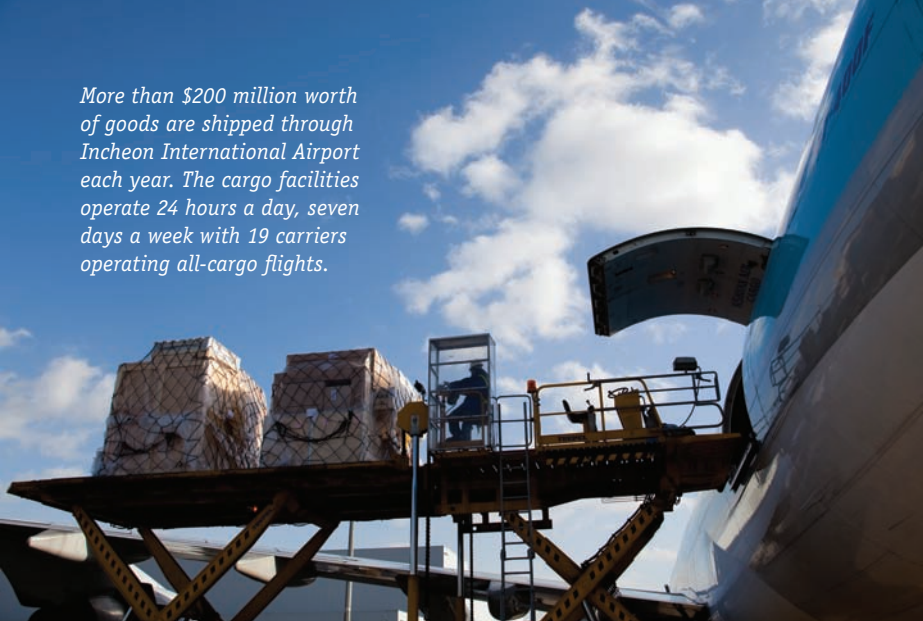
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More than \$200 million worth of goods are shipped through Incheon International Airport each year. The cargo facilities operate 24 hours a day, seven days a week with 19 carriers operating all-cargo flights.



Cargo Performance Targets

In 2008, Incheon International Airport developed a "Cargo Service Performance Index" to monitor its own logistic activities in landside service for exports and cargo breakdown for imports.

The measurements helped earn ICN one of its first cargo awards received by *Air Cargo World* for that year. The process also helped ICN earn better scores than its regional competition – even Hong Kong International Airport, the planet's biggest cargo airport – in the four categories of reliability; customer satisfaction; handling facilities; and operational capacity the magazine uses to assess annual performance.

The indices have since changed slightly. The rounded percentages in parentheses are for 2010 performance marks.

Landside service for exports

Truck waiting time within **30 minutes (97%)**

Cargo acceptance within **15 minutes (95%)**

Cargo release within **30 minutes (95%)**

Cargo breakdown for imports

Less than 10 tons within **2 hours (95%)**

Between 10 and 50 tons within **5 hours (95%)**

More than 50 tons within **8 hours (95%)**

Perishable cargo & express cargo within **1 hour (97%)**

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chips. ASML's hub at ICN should provide a further push to cargo traffic as the company's new products are launched in the market.

Also, a high-speed rail service traveling at more than 200 miles per hour will easily connect ICN with major South Korean cities by 2014 and further bolster cargo traffic by expediting delivery and providing support to express services throughout the country.

'PRO-BUSINESS'

It was this "pro-business" approach that Karl Ulrich Garnadt, chairman and CEO of Lufthansa Cargo – the top non-Asian carrier in South Korea – noted during a recent visit to Seoul.

"There are good opportunities for South Korea's air cargo market in 2012," Garnadt told *Ground Support Worldwide*. "Growth impulses for cargo traffic will come from new hi-tech products, the automotive and pharmaceutical industry and free trade agreements between South Korea and several countries including the European Union."

A free trade agreement already went into effect on March 15 between the United States and South Korea and had an immediate impact on ICN.

Indeed, the first day the agreement became official, ICN received cargo shipments of U.S.-made machines, electronics, clothing and medicine.

The United States International Trade Commission estimates the reduction of South Korean tariffs and tariff-rate quotas on goods alone will create \$10 billion in annual merchandise exports to South Korea.

Sixty-four cargo planes already fly between South Korea and the United States each week. But with the agreement's implementation and the resulting surge in trade, experts say more aircraft will be deployed between the two countries.

BULLISH ON TRAFFIC

On that note, another reason for Lee's bullishness is the acquisition of new aircraft by its biggest

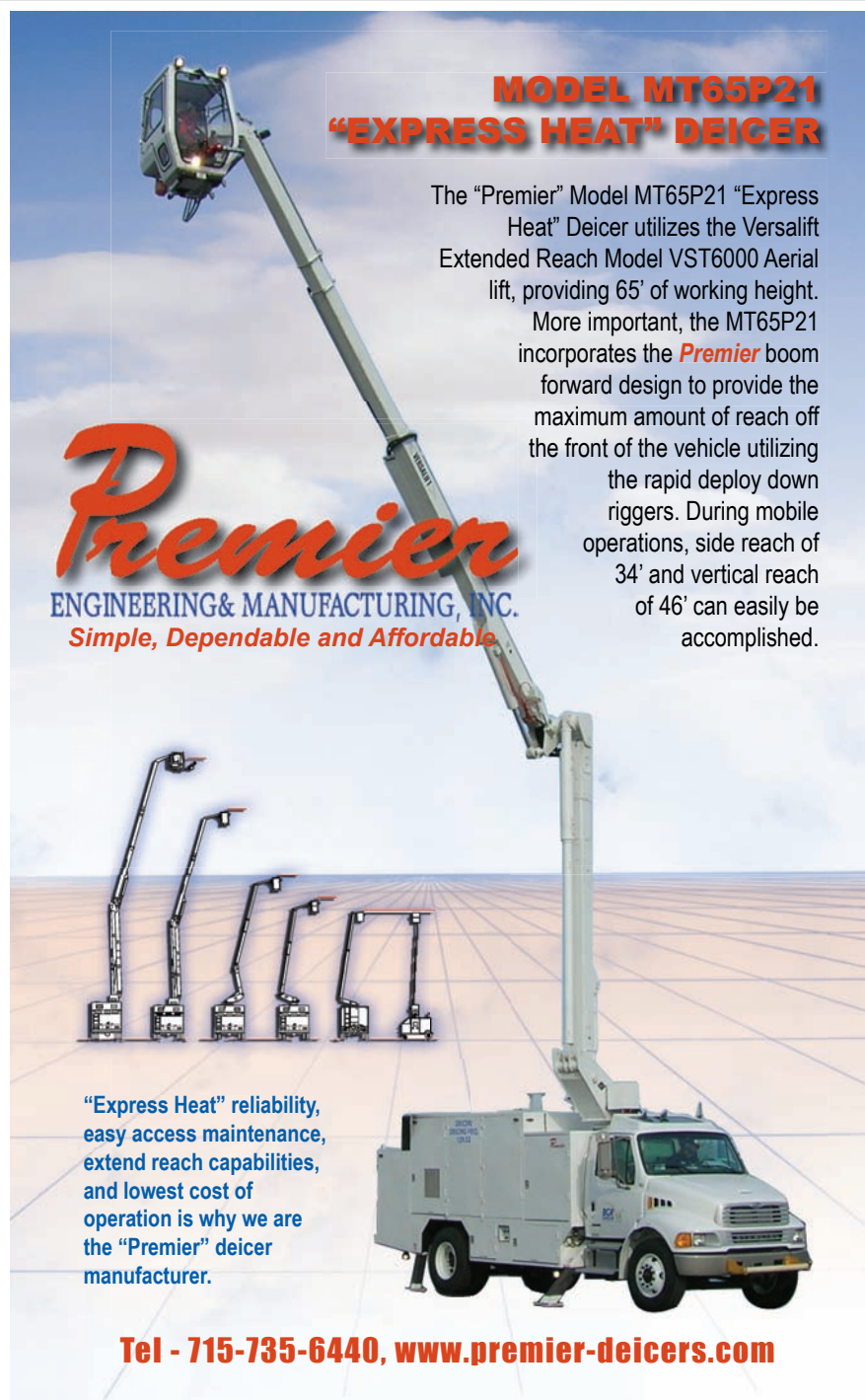
customer. Korean Air represents just more than half of all cargo activity at ICN. And the company recently became the world's first airline to operate both the B747-8 and the B777 freighters.

Korean Air plans to operate the B747-8 freighter on its trans-Pacific route, with stops in Osaka and Narita, and Los Angeles and San Francisco. The B777 freighter, however, will

also allow the airline to expand into new European markets, particularly Vienna, Frankfurt and London.

This, ICN executives say, will vastly enhance their airport's connectivity to the major trading points of the world.

ICN's significance as a cargo airport will be further heightened when it plays host to the International Air Cargo Association's International Air Cargo Forum & Exposition in 2014.



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Airports Council International currently ranks Incheon International Airport as the fourth largest cargo airport based on 2010 data. According to ACI, ICN handled 2.68 million tons of cargo in 2010, a 16 percent increase from 2009.

"We want to promote and communicate our infrastructure and high service levels to as many people as possible and hosting the Exposition means Incheon Airport and Korea's air cargo industry will welcome industry leaders from across the globe," Lee says.

Finally, while much of Lee's discussion with us focused on international cargo, airport management's long-range plan for ICN from opening day is to be the leading airport hub in Northeast Asia for all traffic.

"Both China and Japan are two very big and attractive markets for us, and we would like to further intensify our cooperation with them," Lee said, pointing to the "obvious



advantages" that the airport offered to foreign airlines.

"Besides having no night curfew on flights, new airlines operating to Incheon enjoy exemptions from landing fees for the first three years, which offers easy connections to the world's most attractive markets in the region," Lee adds.

"Within three flight hours, we have 61 cities with populations over 1 million people," Lee said, adding that he anticipates annual flights to grow to 530,000 by 2020 from today's 410,000.

While airport management expects to spend \$2.7 billion on cargo improvement, an overall budget of \$3.1 billion includes a new 1.4 million

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Green Cargo Hub

BY STEVE SMITH

Cargo operations at Incheon International Airport go through 14 tons of plastic packaging a day. Since the packaging is difficult to reuse, it's often used once and thrown out – where it sits in landfills for decades.

To combat the waste, airport management agency Incheon International Airport Corp. helped produce a photo-degradable packaging last year, and provided it at half the manufacturing cost to its inbound foreign cargo carriers.

The packaging material, developed by ICN in partnership with ABI International Co., Ltd., an air cargo plastics specialist based in Seoul, South Korea, is designed to naturally decompose in sunlight. According to ABI, 95 percent of the material will breakdown after a year of sun exposure.

The new wrap is actually the third innovation from the airport's "Green Cargo Hub" initiative. ICN launched the program in September 2009 by introducing a fabric-based ULD weighing 150 pounds, about 40 percent lighter than a steel ULD. The airport says the lighter weight containers cut carbon emissions as well as save airlines fuel. That same year, ICN also offered a biodegradable cargo cover to its domestic air carriers. Both products were also offered to customers at a subsidized rate.

The ICN logo is printed on the products along with a Green Cargo Hub insignia in order to promote the airport's environmental efforts as its cargo travels throughout the world.

By 2020, the airport's overall "Low Carbon, Green Growth" strategies are expected to cut its carbon emissions by 7.2 million tons and generate more than \$10 million in total energy savings.

square foot passenger terminal currently under construction that should add an additional capacity of 18 million passengers, Lee said. The plan also includes improvements to aprons and transportation centers.

After the terminal opens, the next expansion phase on the drawing board will include constructing a fourth and fifth runway. That last runway will be exclusively for cargo, although it will mean an end to ICN's golf course.

By the time this phase is completed, ICN will be able to handle 62 million passengers annually.

Passenger traffic will also undoubtedly have an impact on cargo. Belly-hold freight carried on passenger flights currently accounts for a third of all cargo handling at ICN.

Manik Mehta is a New York-based journalist with extensive experience covering aviation, including ground support, airports, airlines, infrastructure and passenger/cargo traffic. Mehta travels frequently to Europe and Asia. ■

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Aviation Ground Handling Films Employees Lifting The Right Way

Award-winning DVD instructs new recruits and veterans alike on proper manual handling procedures.

By Steve Smith

Ground handling is, for the most part, manual handling. And that manual work can take a toll on just about every part of a ramp worker's body.

Queensland Airports Ltd., a regional airport specialist in its namesake state of Australia, took some of the burden off 110 ground handlers thanks to an instructional DVD that shows the right way to go about various ramp operations.

The company's ground handling firm, Aviation Ground Handling, supplies a full range of ground support services for passenger, cargo and military aircraft at five airports located in the northeast of the country.

The workload can range from 15 flights a week for one airline for a staff of 12 at Townsville Airport to 110 flights a week for three airlines for a staff of 28 at Mackay Airport.

The DVD was the brainchild of Janelle Jamison, health, safety and rehabilitation officer for Queensland Airports Ltd., following her research

Watching a manual handling DVD along with studying a resource booklet and taking an on-line test are mandatory training for all Aviation Ground Handling workers.



Australasian Aviation Ground Safety Council

into staff injuries. Incorrect manual handling was a contributing factor to a number of such injuries.

About 80 percent of Aviation Ground Handling workers are also cross-trained to switch from front-of-the-house operations such as passenger check-in and ticketing services to the typically heavier work of ramp and cargo operations.

"We want a multi-skilled workforce since it provides more flexibility for

the company and a more interesting working environment for employees," says Melissa Pearce, communications manager for Queensland Airports Ltd. "This was one of the main reasons we developed the DVD since we knew we had a lot of area to cover and needed a quick and effective way to teach correct manual handling."

Steve Bowman, Bowman Studios, a regular, international contributor to *Ground Support Worldwide*, filmed the 15-minute DVD on site featuring Aviation Ground Handling's own employees.

To ensure credibility, Pearce told us the script was reviewed by Dr. Venerina Johnston, a lecturer in physiotherapy at The University of Queensland. Johnston, also a researcher with the university's Centre for Clinical Research Excellence in Spinal Pain, Injury & Health, attended the

One Other Ground Safety DVD

Queensland Airports Ltd. isn't selling its DVD, but Steve Bowman who filmed the company's DVD has a safety DVD of his own that is for sale.

"Aviation Ground Safety Training" is an interactive DVD that includes 90 video segments covering safety issues ranging from airside driving and aircraft turns to refueling operations and manual handling.

For more information, go to www.AviationPros.com. Click on the "Buyer's Guide" tab and search for "Aviation Ground Safety Training."

filming to make sure correct manual handling techniques were used.

"It shows ground handling staff performing their roles and highlights ways they can improve their techniques," says Richard Walters, general manager, Aviation Ground Handling. "The DVD also explains the risks associated with *not* following good manual handling techniques."

Viewing the DVD, along with studying a resource booklet and taking an online test, is required for all staff.

"The DVD now forms part of our induction process for all new staff, as well as to ensure existing staff has also been educated in regard to the correct techniques," Walters adds.

The manual handling DVD is actually one of three DVDs that Queensland Airports Ltd. produced last year. The other two were created for maintenance and administrative staff working at Gold Coast Airport. ■

DVD Wins Safety Award

Aviation Ground Handling's manual handling DVD recently won the Australasian Aviation Ground Safety Council's Ground Safety Award.

The council was originally known as the Australasian Airline Ground Safety Council and was a spin-off from a similar organization, the Australasian Airline Flight Safety Council formed in 1980.

Its core business is to improve the safety of all activities that go into ramp and terminal operations.

One of its first successes came in the mid-1990s when its member airlines agreed to adopt a maximum checked

baggage weight of 32 kilograms (70 pounds) per bag in order to reduce back injuries to ground handlers. The recommendation was subsequently accepted by the International Air Transport Association. A 2008 agreement reduced the standard to 23 kilograms (51 pounds).

Membership expanded to include companies such as ground handlers and fuel operators that all shared the same busy airport environment.

By 1997, the council knew it also needed airport executives as full members to address its mission effectively. Along with changes in membership bylaws, the organization took the name it is known by today.



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The Basics Of Preconditioned Air

Providing both power and air at the gate can save energy and keep the APU ready for use when it's really needed.

By Bryan Bullerdick, sales manager of JBT AeroTech's Jetway Aircraft Support Equipment (JASE) division and president of Bullerdick GSE LLC

Close to nine years ago, I was involved in a bid for more than 100 preconditioned air units for a low-cost U.S. airline. This airline was one of the first to completely outfit all its boarding bridges with both 400 Hz and preconditioned air.

This was also just prior to the last fuel cost spike and the industry's move to be "more green." Today fuel costs are back up and green airport initiatives are much more common. The difference today is there are so many more choices, but also so many misunderstandings about what preconditioned air units will best service a particular operation.

I am not sure if it is the industry's engineers or creative marketers, but

there are a lot of acronyms in the preconditioned air industry:

- ACU (aircraft cooling unit).
- PCA or PC Air (preconditioned air).
- DX (direct expansion).
- AHU (air handler unit).
- CAS (central air system).
- POU (point of use).
- TMAC (trailer-mounted air conditioner).
- DAC (diesel air conditioner).

With that information we can now discuss PC Air like the pros. PC Air's main purpose is to save aircraft operators money. Yes, it cools and heats an aircraft, but the aircraft already can do that for itself with an APU. The APU is a very expensive little engine, however.

FUEL SAVER

To understand how PC Air saves energy and fuel we should follow an aircraft coming into a boarding bridge or ramp parking position that does *not* have power and air available.

Either on approach or during the taxi in, the captain will turn on the APU. That way it will be ready to take over the aircraft's power loads and cooling and heating needs before the captain shuts down both main engines.

From that point until the aircraft is disembarked, catered, cleaned, boarded and engines started again, the APU would be running the entire time. For years this seemed OK until some smart people started to calculate what the costs were to do this.



This 20-ton Point-Of-Use PCA Unit can be mounted in various ways on a passenger bridge, but also can be installed on a stand or cart.

The first reaction was to make sure 400 Hz and 28V DC power were at either the boarding bridges or available at the ramp parking spaces. That way the power requirement of the aircraft could be transferred to an external power supply.

The problem with that was the captains still did not turn off the APUs. While air and heat are not required for aircraft operations to continue, the captains had a responsibility to make their customers comfortable and would keep the APUs running just to run conditioned air into the aircraft.

That would be like having a \$1,000 electric bill to cool your house for a few hours. It is a big waste of money and energy. Besides burning a lot of fuel and making a lot of noise, many aircraft operators pay fixed maintenance costs based on cycles or run time.

After all, this also defeats the main purpose of having an APU – to provide a



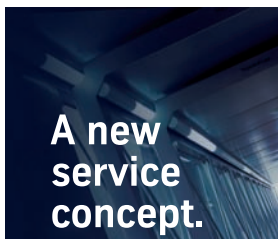
This DX Boost PCA Unit's two-stage cooling design delivers extremely cold air that can effectively cool large aircraft.

backup generator on board just in case of an engine generator problem and to start aircraft engines before flight.

I used to be an airline pilot for a legacy airline and one operational

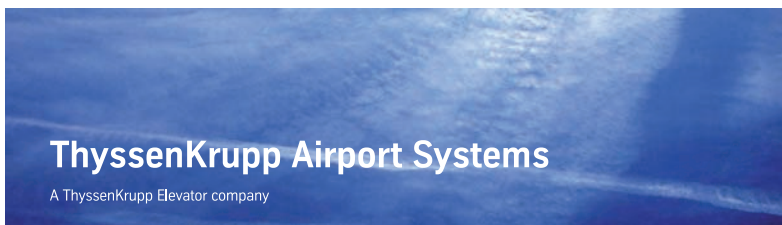
delay that was common would be a failed APU unit. The main reason for failure? We would be limited to a small quantity of available external air-start units to get the first engine started, which inevitably caused a delay on push back.

More importantly, if an APU is "MEL'd" (minimum equipment listed),



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you can still fly with that broken APU because the FAA has preapproved that failure to be acceptable for a short period of time – but not in bad weather.

Having a MEL'd APU at the airline I flew for meant that flying in icy conditions, expected turbulence or CAT III approaches – basically very low visibility – was prohibited. This FAA requirement would often cause

delays or cancellations because the weather criteria could not be met.

THE SOLUTION

PC Air units are a part of the solution to help lower these APU outages, save energy and keep the APU ready for use when it's really needed.

By using the APU less and using external PC Air with power instead, the APU can remain off until 5 min-

utes before departure to be ready to start a main engine.

The low-cost airline I mentioned was one airline that figured this out early. And its solution was to put power and air in all its parking positions and standardize operations with the flight and ground crews to use these external power and air units to save significant money.

While I do not have specific numbers on what it saved each year with this solution, I have seen many studies done for airports where millions of dollars can be saved annually at hub airports and hundreds of thousands of dollars at medium-sized airports with the same improvements to power and air.

The difficulty, however, comes with different climates, different aircraft in one place and different restraints to infrastructure.

Having the exact same POU DX unit at each parking spot in the entire system is not normally going to work for most operators.

Let's discuss some of the basic designs and the differences in technology to help us better understand the options.

DX units are the most common PC Air designs used today followed by AHUs. POU DX units range typically from 20 tons to 150 tons and can be facility-powered or diesel-driven. Smaller, electric 20-ton sizes can be side-mounted on bridges and the largest 150-ton units stand-mounted. Almost anything in between is possible.

All of these DX units come now with the following refrigerant: 410A, 407C and 134A. All three are used at JBT AeroTech because each refrigerant has pros and cons depending on what you are trying to accomplish.

In sizing the units for application, several factors have to be kept in mind. To name just a few:

- Ambient conditions.
- Aircraft to be serviced.
- Type of power if electric-driven.
- Desired cabin conditions.



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This 30-ton Mobile PCA Unit powered by a diesel engine offers the best solution to keep aircraft interiors comfortable no matter where they are parked.

We use an excellent calculation program that takes all of these variables and adds them up with the aircraft curves and provides recommended sizing. Even with these results, however, we still have to look harder at other factors. To name just a few:

- Type and length of delivery hose.
- The number of service doors that could be open at one time.
- How often the worst case ambient conditions will exist.

With all of this information, basic performance requirements needed

to do the job can be narrowed down. Common salient characteristics are a good thing to keep in mind at this point. To name just a few:

- Tonnage.
- Airflow.
- Static pressure.
- Discharge temperature.
- Operating limitations.
- Blower horsepower.

One quick note on tonnage: Many PC Air manufacturers are starting to give names to different sizes instead of tonnage descriptions because manu-

facturers know best what their units are capable of cooling. Tonnage is a difficult measurement anyway because compressor tonnage and actual tonnage performance make a big difference.

In some cases, when using 134A powered by a 50 Hz power supply, the compressor tonnage can be 90 tons, but the actual tonnage can be 50 tons. Derates for refrigeration and input power can be that significant with some manufacturers. This is why you really have to know what you are buying.

OTHER APPLICATIONS

Extreme Conditions: For extreme hot locations, JBT AeroTech successfully developed a DX boost unit by taking a DX unit and adding a glycol coil – like a typical AHU unit would have – to supplement cooling capacity.

Until this hybrid design between a DX and an AHU, most operators had to run the aircraft's APU to keep the aircraft cool.

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But extreme heat and humidity are two things a good designed PC Air system can overcome. All DX and AHU use 100 percent outside air that is dehumidified in the process of cooling the air. If you've ever stood under a PC Air unit on a boarding bridge that doesn't have the condensate hose connected, you stand a very good chance of getting soaked.

Central Systems: Central air is the other very popular option to DX POU units. Central systems are a good option for some since they offer a lower cost of operation and a better return on investment on projects with more than five parking positions.

A central system typically will have a greater initial capital investment than a POU, but has less overall compressor circuits, refrigeration components and has a diversity factor to help lower electrical requirements to provide as good or better cooling and heating temperatures than DX units.

This Air Handling Unit delivers the highest airflow and pressure to make up for the resistance created by air ducts and other hose systems.

A central system uses AHUs placed close to the aircraft parking positions and feeds a glycol/water mixture pumped through the AHU coils to cool or heat the air that is blown through.

While a central system may require more time and money up front, the long-term benefits may make it a better option.

Hangar Installations: PC Air applications in hangars are starting to pick up again. Since APUs can't be used indoors, crews typically work on aircraft in unconditioned hangars. The need to provide comfort, however, is becoming an important enough human factor to consider these systems.

Usually a few DX units are placed outside the hanger and then ducted



All photos provided by JBT AeroTech.

into the hanger underground in what is normally called a trunk line. These systems can range from very basic to fully automated.

No Power: Mobile, diesel-driven PC Air units will provide the power when there's no power.

While these units burn diesel fuel and are noise producers, they are far less noisy and fuel hungry compared to an APU. Many of these mobile units can also provide the required aircraft power. This will help conserve ramp space and use one engine generator.

In summary, PC Air is not required to cool or heat an aircraft, but it is required if you plan to take advantage of less APU usage.

Over the last nine years most operators have quantified the savings upgrading their parking positions with PC Air. Today, there are more options to consider.

PC Air systems have a normal useful life of 10 to 15 years. Payback on investment is often less than a year.

These systems can save a lot of money for operators who understand the cost differences in running power and air externally and shutting off the APUs.

Knowing what will work and understanding your options will make this investment successful.

About the author: Bryan Bullerdick has worked in the industry since 1993 and is a B-737 retired pilot and instructor. Bullerdick is the sales manager for the JBT AeroTech's new JASE division with its core products in aircraft power and preconditioned air systems. 

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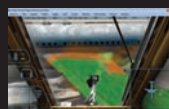
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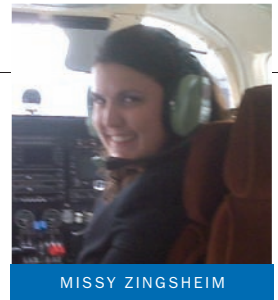
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MISSY ZINGSHEIM

Then And Now

After all these years, companies have persevered and found new ways to do business in the aviation industry.

I was looking back on some old issues of *Ground Support Worldwide* formally GSE Today. I love looking back on old issues to see how things were in the industry and where we are now.

Obviously the first thing that hits me is the design and color; we have come a long way since 1993. I love to look at all the ads and still be able to recognize almost all of the manufacturers and distributors. After all of these years in our niche little market, companies have persevered and have found new ways to do business in the aviation industry.

The way we do business has definitely changed. Here are some launches of technology that have changed the way we do business, and, no, I am not trying to date anyone:

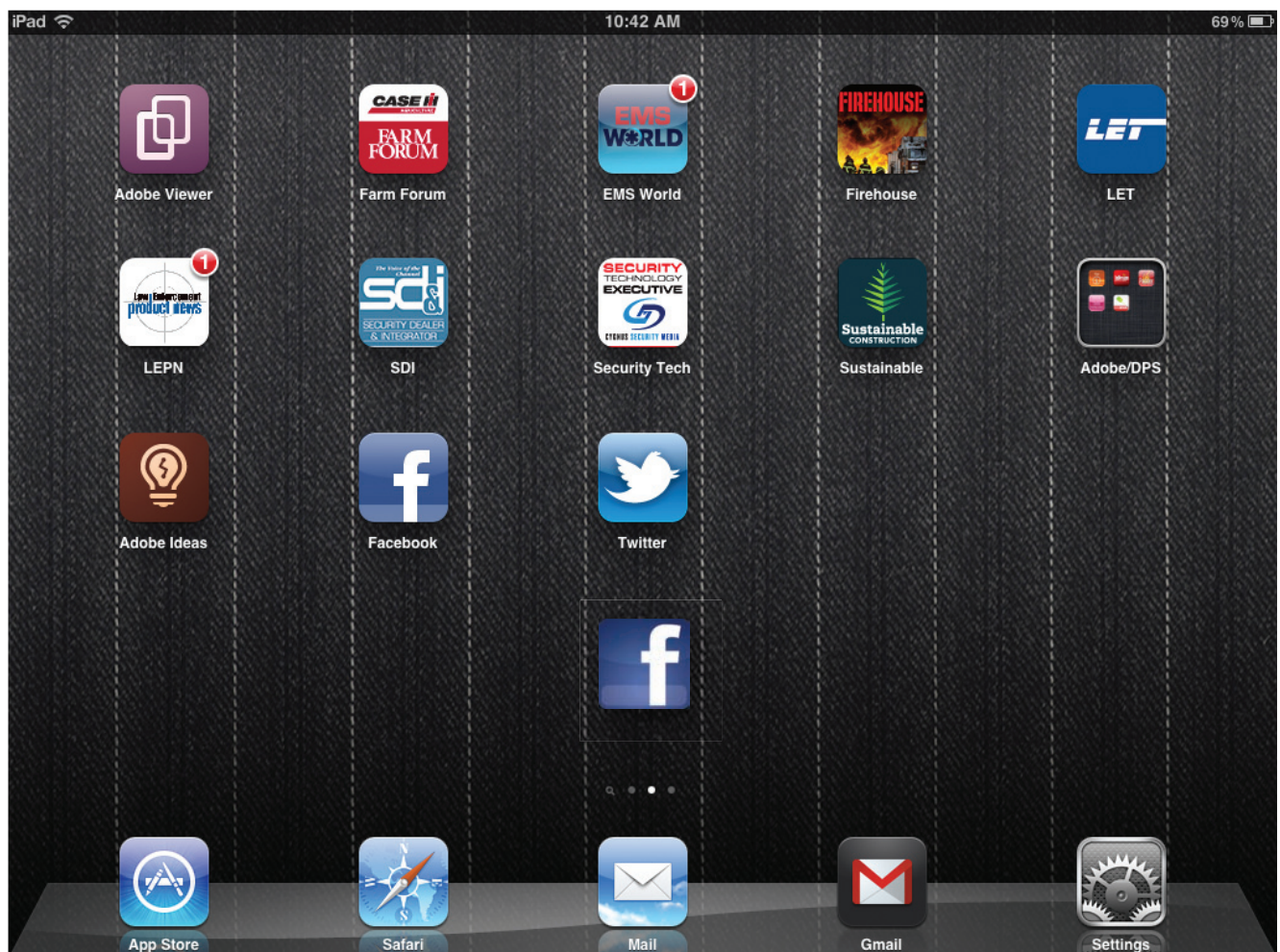
- The World Wide Web was born in 1993.
- The Nokia Communication was the first mobile phone to enable wireless email and internet connection, it was released in 1996.
- Google was invented in 1998.



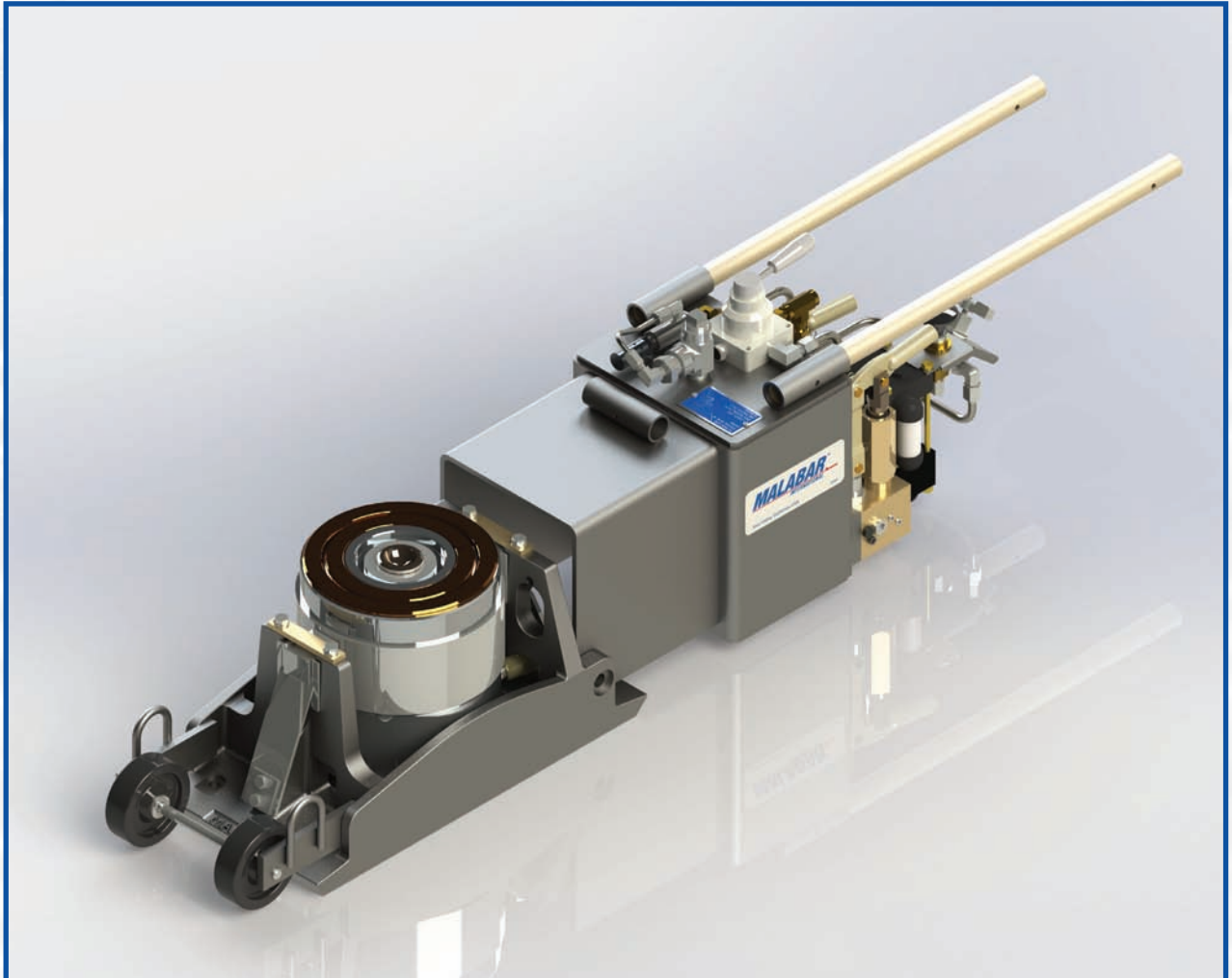
- Facebook launched in 2004.
- The iPad was released in 2010 changing the way everyone does business today.

I look forward to seeing what the future holds and how we will continue to evolve and change how we do business. Let me know your thoughts.

Thanks for reading Missy



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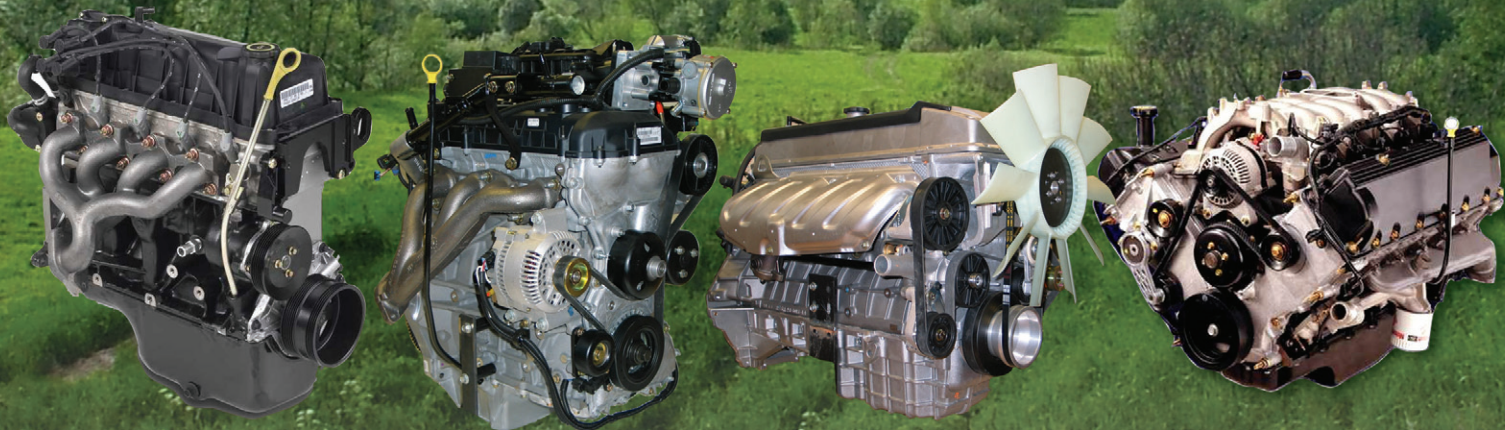
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