

# GROUND SUPPORT

## WORLDWIDE

A management information system puts employees where they need to be when they need to be there.

September 2012

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# SUPPORT

### International:

#### A Primer On Air Cargo Security

The industry readies for a December deadline to screen all cargo on international passenger planes bound for the United States.

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# Some GOOD NEWS

Being on time in Chicago won't mean much if my bags are in San Francisco.

**U**.S. airlines are not only on time, but passengers and their bags are more likely to be reunited at their final destinations.

So says the latest data from the Department of Transportation. Here are two highlights:

- Nearly 84 percent of domestic flights arrived within 15 minutes of scheduled arrival time in the first half of this year – a record high since the DOT began tracking these numbers almost 15 years ago.
- Fewer than three suitcases per 1,000 passengers were reported lost, damaged or delayed during the same time frame – in this case, a record low.

If the last six months of this year are anything like the first, the airline industry will end 2012 with its best numbers since 1991. Wondering about the worst? Just 73 percent of flights were on time in 2000; nearly eight bags per 1,000 passengers were late, lost or damaged in 1989.

In the positive category, we couldn't have asked for better flying weather. Thunderstorms struck less than usual. Winter was also hardly a factor.

Also, airlines are flying newer planes, which should mean fewer mechanical issues. And airlines have added incentives and penalties to ground handling contracts for timely and not-so-timely deliveries of fuel and catering.

Finally, everyone's in the habit of being aware of delays. New federal regulations require airlines to post on-time performance for their flights right on their web sites for all to see. Airlines can be fined as much as \$27,500 per passenger, if a plane sits on a tarmac for more than three hours.

In related stats, the DOT also reported separately that only four planes sat longer than three hours from January to June. That's a big drop from the 35 tarmac

delays reported during the same period of time last year, the first year the rule took effect. By comparison, there were 586 tarmac delays of three hours or more back in just the first six months of 2009.

In the negative column, padded flight times may be skewing these statistics in favor of the airlines. Has the distance between Atlanta and New York somehow changed? We didn't think so either. But Delta gives its flights an added 16 minutes to get there during peak times.

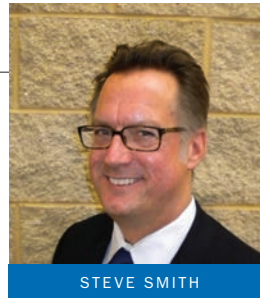
Also, the recession means fewer flyers packed into fewer planes. Finally, with fees for checked bags routine, more people are likely to put their bags in the overhead. So that leaves us with not only fewer planes in the system, but also fewer checked bags.

But technology tracks those bags better. American Airlines, for example, supplies its ramp workers with some 2,000 handheld scanners to scan each bag as it's loaded. If the bag belongs on another flight, the scanner vibrates and flashes a warning. The airline says the rate of bags loaded onto wrong flights has dropped more than a quarter as a result.

The new system also provides better directions to workers driving baggage carts. In the case of a gate change or flight delay, drivers get real-time notifications electronically.

Bag transfers, however, are always the main reason for baggage snafus. Southwest Airlines, for example, has now started taking transfer baggage to connecting flights at its larger airports right as the unloading process takes place. The airline used to wait for all bags to be removed before taking care of the transfers.

After all, being on time in Chicago won't mean much if my bags are in San Francisco.



STEVE SMITH

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# A Simple Way To Maintain Turbocharged Engines

It can't get any simpler than to just change the oil as often as you can.

By Guy Ruff Jr. *GSE Mechanic, US Airways*

**T**urbochargers are being installed on many hungry diesels from belt loaders to air starts. One reason is that the EPA believes it cuts down on pollutants from these typically smoky engines.

Turbochargers definitely produce more power. To create that extra power, turbochargers ram more air into the cylinder. This makes the turbocharged engine not only more powerful relative to its size, but also makes it run more efficiently than a regular combustion engine.

A turbocharged engine in a truck, for example, can generate as much as 40 percent more power and cut down fuel costs and emissions by up to 15 percent compared to a non-turbocharged engine.

## GSE?

The main reason for the turbocharger in GSE is the lag in delivering oxygen during the initial throttle. Squirt some fuel, and there better be a good charge of air to combust the fuel. And we're not interested in speed, of course, as much as we are in torque.

New orders always come with secondary costs and new ways to think. Turbocharged engines, for example, not maintained by regular oil changes fail. It's that simple.

Simple things not done can cost a mind-boggling amount of dollars. Over-heating and loss of power come to mind, naturally. But if the turbocharged engine powering an air start shuts down during the process, there could be major damage to aircraft. You definitely

do not want something like an air start to cough the moment you need it.

In the matter of oil changes, I can really blame the fact that turbocharged diesel engines need high quality oil. The bearings of turbos are red hot in moments after the engines run for a few seconds. Problems come from the oil that circulates around this bearing. Shut it off and the oil cooks to carbon, slowly but surely blocking the oil flow.

If you have an engine at full-out screaming rpms, and then abruptly shut it off as many average Joes do, it will fail. Maybe not today. Maybe not tomorrow. But definitely when you need it most. That's an "always."

But wait there's more!

Follow the exhaust, and you'll see it goes to a catalytic converter. What you'll see in this cat is a honeycomb of fine metal. The exhaust is hot enough to make these babies glow.

Inside this unit is a very costly mixture of fancy chemicals that try to burn all the unspent fuel. Well, if the turbo bearings fail and spew oil into the system, it passes the pistons to pile on the honeycomb.

No biggy at first ... until it piles so thick you start to lose power. The morning starts are harder. Sometimes people just assume the engine is tired. Change out the engine, right? Oh yeah. Twelve thousand dollars later, the same problem!

There are a few things you can do to prevent this:

- Change your oil. Often. An oil change is nothing compared to expensive repairs and down time.

- Know your engine. Many times I wonder why it just isn't bolted on instead of welded for inspection. Pressure sensors could give awareness of upcoming problems. I sometimes whip out my infrared temperature laser and look at exhaust temps.

But the best advice I can give you is to change the oil if you love the engine (which goes without saying). I've never seen a warranty say changing the oil "often" will void it.

Finally, here's something wonderful and not well-thought-out: The location of the air filter often affects the whole system. The filter should not be exposed to the crazy blow by of a big diesel. But it is and, naturally, this plugs the filter and cuts down air flow. If you've continued to change the oil and are still having trouble, this might be a place to start.

This is just some of the typical things I come across day after day. It's almost second nature to know right off what's wrong with these air-huffing engines. I wonder if the engineers who designed them ever changed the oil in one.

Change the oil, please. Often. 

*Guy Ruff Jr. has been maintaining GSE for US Airways for the past 25 years. "From heavy turndowns to details," he writes in his LinkedIn profile. "Too many to list." Ruff started his career as a plater for military-grade electronics at Sunstrand Data Control and got involved with the Hubble telescope; Mx cruise missiles; and the F-18 fighter jet.*



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## Calendar of Events:

### Sept. 20-21

#### Root Cause Analysis

Memphis, TN

[www.hightechnologyseminars.com](http://www.hightechnologyseminars.com)

### Sept. 28-29

#### Southeast Aviation Expo

Greenville, SC

<http://www.scaaonline.com/content/date-set-2012-southeast-aviation-expo>

### Oct. 31 - Nov. 1

#### NBAA 2012 65th Annual Meeting & Convention

Orlando, FL

<http://www.nbaa.org>

and fuel expenses erode its cost advantage over larger rivals.

### Chattanooga Airport Expands

**Cargo:** With air freight soaring at Chattanooga Airport, officials plan to expand a cargo ramp on the south end of its main runway. Through the first six months of this year, air cargo handled has climbed 240 percent over a year ago, according to the airport.

**American Delivers:** American Airlines will begin delivering its passengers' luggage. The service can be purchased when booking the trip or up to two hours before the flight and costs \$29.95 to \$49.95, depending on the amount of luggage.

### Delta Ends Regional Ground

**Handling:** Delta Air Lines is shutting down its subsidiary that performs ground handling and customer service for its regional carrier flights. Regional Elite Airline Services has about 4,000 employees around the country. Its operations will be taken over by the end of the year by other companies, including a new subsidiary, Delta Global Services, that the airline expects will have job opportunities at the same airports for

the "vast majority" of Regional Elite workers. In related news, Delta will shut down its regional carrier Comair at the end of September.

### American Lays Off Cargo Agents:

American Airlines said it expects to lay off 40 cargo workers at Dallas-Fort Worth International Airport by the end of this month. The airline linked the job losses to the company's attempt to cut spending as it restructures under bankruptcy protection.

**DOT Fines Airlines:** The Department of Transportation hit JetBlue with a \$90,000 fine for failing to inform passengers that they had a right to exit a plane that was stuck at a gate at John F. Kennedy International Airport earlier this year. In related news, the DOT fined online travel company Orbitz \$50,000 for failing to properly disclose baggage fees on its website.

## Partnerships/ Acquisitions/ Contracts

**Fortbrand Delivers:** Fortbrand Services, Inc., the exclusive North American distributor for the Hagie GST 20, a multifunction, airfield maintenance unit that can provide service throughout the year, delivered its second Hagie GST 20 airport sprayer, equipped with a Vammas PS4200 Edge Light Plow and Tiger 24-foot flail mower for use at John F. Kennedy International Airport.

### Lightweight Containers For Airberlin:

Airberlin is will be using lightweight containers to transport freight and baggage. Their use will trim 400 pounds of weight and save more than 7,900 gallons of fuel per aircraft per aircraft per year. The Jettainer, containers will be used on Airbus A330-300 and A330-200 long-haul flights.

## Business Buzz

### Southwest Seeks Workers' Ideas:

Southwest Airlines began asking employees to help it stay competitive by finding ways to save \$5 a day. Southwest is under growing pressure to trim spending as higher labor

## FAA Budget Could Ground Travelers, Cargo And Economy

An Aerospace Industries Association and Econsult Corporation study released last month estimates that budget cuts to Federal Aviation Administration operations as a result of "sequestration" could cost up to 132,000 aviation jobs, sap \$80 billion a year from the nation's gross domestic product and strip almost 2 billion pounds of freight capacity out of an air cargo system that is already buckling at the seams.

Sequestration is the legal term for when spending cuts are automati-

cally triggered. Such mandatory cuts are currently scheduled to begin at the start of 2013.

According to the study, annual economic losses could amount to \$80 billion annually by 2035, an annual decrease of 37 to 73 million in passenger enplanements and annual reductions of 1 to 2 billion pounds of transported air freight. The forecasted loss in output to the U.S. economy is estimated to reach \$9.2 billion to \$18.4 billion, with \$2.7 billion to \$5.4 billion lost in wages and salaries.

**Deicing Apron At PWM:** The Portland International Jetport will receive a multiyear \$9.3 million grant from the FAA to help pay for recent expansions. The funds will help cover the costs of a \$9 million deicing apron.

**Menzies Acquires Flight Support:** Menzies Aviation acquired Flight Support, a UK-based ground handling business from Airbase Holdings. The

acquisition adds three new airports to the Menzies' UK ground handling network and the increases existing relationships with a number of airlines.

**JBT Wins \$10 Million Order:** JBT AeroTech was awarded orders in excess of \$10 million by a large air freight carrier. The contract is for the supply of new aircraft cargo loaders, deicing vehicles and pushback trac-

## Hammonds Direct Ships Biobor JF To EU Customers

Hammonds Fuel Additives announced a direct shipping agreement with Aviall Services Inc., that will give its European Union customers quicker access to Biobor JF.

Biobor JF has been approved for use in the European Union since 2010 and will continue to be approved on a yearly basis while Hammonds Fuel Additives works to gain long-term certification.

Biobor JF is one of only two biocides that are accepted for use by the FAA and IATA.

Aviall Services, Inc., a wholly-owned subsidiary of The Boeing Company.

tors, as well as for the refurbishment and upgrade of existing cargo loaders. The new and refurbished GSE will be used to support cargo aircraft throughout their global system.

**Somerset Finance Announces Partnership:** Somerset GSE Finance announced the formation of a strategic partnership with Melton Sales & Service, a remanufacturing specialist located outside of Philadelphia, PA.

**Swissport Gains Cargo:** Swissport Cargo Services will begin cargo handling for Air China's daily B747-400 freighters in to and out of Amsterdam Schiphol Airport, and will also begin handling cargo and trucked freight movements at Schiphol for Turkish Airlines.

### Cavotec Wins Fueling Deals:

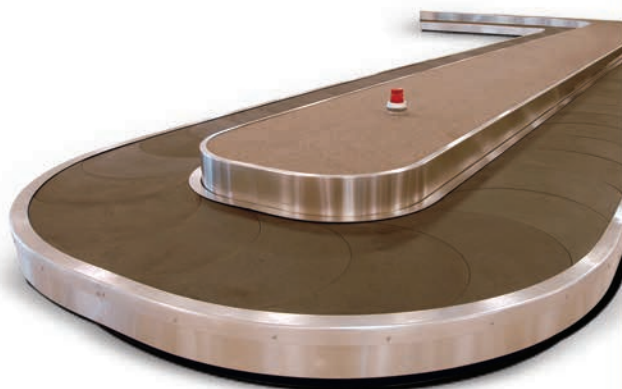
Cavotec will supply aircraft refueling pits for the second phase of Mumbai International Airport's expansion program. This follows the successful

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installation of similar pit systems for the first phase of the program, and brings the total number of Cavotec in-ground refueling units at the airport to 175. Cavotec has also won a first-time order for unspecified number of hydrant pits that will be installed at the Indira Gandhi International Airport.

**R.J. Design Wins Contract:** R.J. Design was awarded a contract to install its Side Shift Cabs at San Diego Airport. R.J. Design is also in the process of installing Side Shift Cabs at Los Angeles International Airport to service A380 flight.

**Jasper Provides Products To College:** Jasper Engines & Transmissions formed a partnership with Ohio Technical College to provide its products to the school's automotive and auto-diesel programs. Students will train at Jasper's Engines and Transmissions Training Center Lab.

## LAS Features Gen2 RFID Technology

McCarran International Airport's Terminal 3 expansion features Gen2 radio frequency identification (RFID) technology as part of its baggage tracking system and is the largest Gen2 installation to date in North America.

An RFID chip is incorporated into each bag tag produced for all of the airlines and it emits a unique signature which sensors detect to locate the tagged object.

Standard bar code tags may be misread forcing bags to be hand-sorted and increases the chance of problems. However, RFID tags can achieve read rates in excess of 99 percent, which allows airports to easily organize baggage loading, locate misplaced baggage and check the status of certain baggage.

Design and installation of the new baggage handling system for Terminal 3 began in 2008. Vanderlande Industries was awarded a \$92 million baggage handling system, which includes approximately 30,000 feet of conveyor, more than 10,000 feet of catwalk, 73 high speed diverters, 32 carousels, 20 Vertisorters and 55 "Over Belt" RFID readers.

**An RFID chip is incorporated into each bag tag.**



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## Two Former Delta Ramp Agents Plead Guilty To Drug Charges

Luis Marroquin, 35, and Kelvin Rondon, 27, both former Delta Air Lines ramp agents pleaded guilty to conspiracy to possess with the intent to distribute controlled substances and attempting to import methamphetamine and heroin into the United States from Mexico.

The plan to smuggle drugs valued at more than \$600,000 went wrong

almost immediately after Delta flight 364 arrived at the Atlanta-Hartsfield International Airport from Mexico City, Mexico and a Delta employee found the unclaimed bag on a carousel.

Additional charges were brought against Carlos R. Springer, 41, who was the leader for the shift of ramp employees who removed baggage

from flight 364. A federal grand jury also charged Stephanie Baxter, 26, with concealing and harboring Marroquin while he remained a fugitive in this case.

Marroquin and Rondon could receive maximum sentences of life in prison and fines of up to \$10,000,000. The cases against Springer and Baxter remain pending in federal court.

## People In The News



the company's financial performance,

**Ben Weaver** was named chief financial officer for ASIG. Weaver will report directly to President Keith P. Ryan. In addition to managing

Weaver will work closely with senior executives on mergers, acquisitions and other strategic global growth initiatives.

Weaver joined ASIG from Signature Flight Support where he served as vice president of strategy and development, overseeing global merger and acquisition strategy. He also served as Signature's vice

president of operations planning for all aspects of operations and global procurement strategies.

In 2002, Weaver began his career at Flight Options, LLC, a fractional jet provider. He held several key accounting and finance roles, including vice president of finance. Weaver has a bachelor's degree in business administration as well as a

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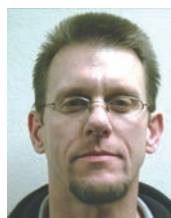


master's degree in business administration from John Carroll University.



Matheson Flight Extenders appointed **Kenneth deVolpi** as sales and marketing manager. He was formerly the station manager for the

company's Bradley/Windsor, CT location. Matheson Flight Extenders



also promoted **Scott Elander** to the position of manager for the company's Reno/Sparks, NV facility. Elander was previously the

location's supervisor.

Toyota Material Handling U.S.A., Inc. appointed **Bret Bruin** as national dealer development manager. Bruin is responsible for dealer network development, market representation and dealer financial reporting for the more than 70 authorized Toyota Industrial Equipment dealers and 220 dealership locations throughout North America.

**Rebecca Boyd and David Tabb**, Skystar Airport Services, Perth, Western Australia, attended a recent International Air Transport Association meeting to accept the first international quality assurance and safety certification through the ISAGO program for any Australasian ground handling company.

Skystar has an integrated approach to provide clients with a single contact point for all their airport ground handling and logistic needs. In 2011, Skystar handled 12,299 flights, carried approximately 3 million passengers and 60,600 tons of baggage, and achieved an impressive 99.5 percent on-time performance record. Skystar also extended its relationships with Qantas, with the award of a new contract at Karratha Airport; Western Australia; Jetstar, with the award of a new contract at Dunedin Airport, New Zealand; and Cobham Aviation with the award of their terminal handling at Perth Airport. ■

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# PrimeFlight's Data-Driven Ground SUPPORT

A management information system puts employees where they need to be when they need to be there.

*By Steve Smith*

**P** rimeFlight Aviation Services, based in Nashville, TN, employs more than 3,500 people in ramp services, baggage handling, cabin cleaning and passenger assistance to airlines across the United States.

“To support our customer’s customer service needs is our basic core philosophy,” says Mark Marudas, executive vice president of operations and business development. “To accomplish that task, we put a lot of emphasis on ensuring that we develop exceptional people and have a system in place that supports our various services that can be standardized through a large network to enhance passenger experience and add value to an airline’s brand.” Buried in that long quote is the phrase “have a system” that’s one key to the company’s focus on brand management.

We’ll get to that system in a moment, but consider the company’s latest service. The new PrimeFlight X-Wash is a specialized division that cleans a plane’s exterior from crown to tail.

There can’t be too many bigger representations of a company’s brand than a gleaming aircraft parked and ready to go at a gate dressed in its distinctive livery.

Acid rain and sleet, however, not to mention deicing spray, runway salt and even improper cleaning can all take their toll on an expensive plane’s skin.

There are two ways to clean the exterior of an aircraft, relates Steve Leonard, senior vice president of business development. A “wet wash” done with pressure washers isn’t all that different from a scaled-up version of a car wash.

However, the soapy discharge left behind creates an environmental problem since government agencies from federal to state to local do not want wet wash leftovers overwhelming drainage and wastewater systems.

“As a result, there’s been a movement to take a different approach,” Leonard adds. “It’s not unlike a wax process for a car except obviously on a much larger scale.”

That’s the process that Leonard says is the future of exterior washes and what the company rolled out recently in Newark, NJ and Sacramento, CA.

A lot of work goes into preparing a plane even before the extensive cleaning process begins. PrimeFlight X-Wash crews conduct extensive filming of each operation to highlight, for example, that landing gear and brakes are covered with secured tarps to prevent any chemical splash. Or that additional protection is installed to take care of airspeed and altitude-sensing ports.

Leonard says cleaning one plane the X-Wash way can take 20 man-hours. The operation also includes further detailed service to engines, pylons and landing gear.

Afterward, the protective covers and tarps are placed in sealed





*PrimeFlight Aviation Services developed a cohesive safety, quality and compliance training program rather than a stand-alone safety curriculum. The company believes this method makes safe behavior second nature to its workers.*

containers for inspection. And a final filming of the cleaned aircraft takes place, including from the crown, top of the wings, APU, engine insides, cowlings and landing gear to ensure no equipment or FOD is left behind.

The PrimeFlight X-Wash service extends paint life by removing oxidants and potentially harmful chemicals and adding a protective UV coating that further protects a plane's appearance.



*Steve Leonard, Senior Vice President of Business Development*



*Mark Marudas, Executive Vice President*

PrimeFlight's other specialty cleaning services include cleaning and disinfecting cargo bins and cleaning wheel wells and flap tracks, all of which contribute to a clean, smooth aircraft – and that adds up, Leonard says, to less drag and, therefore, increased fuel economy, as well as minimized corrosion.

Although PrimeFlight started offering the service at two locations, the company also has service proposals to almost all the major domestic airlines. In addition to exterior cleaning, its crews have always been busy taking care of the interior cleaning, too.

"Our appearance operations currently make up about 30 percent of our service base and we've seen a significant expansion on those services over the past eight years," Marudas says.

## THE SYSTEM

Keeping much of this activity humming behind the scenes is a management information system called SynTrack.

While management has tweaked the system to fit the needs of an airport service firm, the basic software product actually comes from the hospital industry where its primary purpose is to automate the work flow of transporting patients using straight-forward, intuit-

# SSR Services

**PrimeFlight first started using the SynTrack system for SSR or "Special Service Requests" at Milwaukee's General Mitchell International Airport in 2010.**

The centralized dispatch system can route multiple airports through a single dispatcher. The system also holds important service data for five years in a database (as well as offline for any length of time), which allows airlines to respond to important queries from the Department of Transportation and ADA laws.

According to government statistics, half of all disabled flyers' complaints involve wheelchair assistance.

**"Our customers need to record every disabled passenger transaction in great detail," Leonard explains.**

The Motorola E320 PDA we described in the main story also offers a high level of service to the disabled. The device, for example, has an IATA-approved bar code scanner that can scan a boarding pass and capture all that information onto the device.

That ability, in part, helps PrimeFlight contend with passengers transferring between different airlines and connecting flights, in which case, the airlines' different computer systems may not communicate with each other, if at all.

Finally, the system allows PrimeFlight the ability to dispatch a passenger's wheelchair needs throughout an entire trip, even if PrimeFlight is not providing the wheelchair service. Though the system, dispatchers can schedule passenger pick-ups and drop-offs at any airport where a passenger may arrive, connect or depart.

For Marudas, centralized dispatch means the best service.

**"We'll be able to push passenger service request information to any service point within our network and provide for continuity of the airline's customer experience," Marudas explains. "We envision where we could provide seamless service from, say, Nashville to Honolulu via Los Angeles. Today, in some locations without having the technology deployed in the way we envision, you may have two or three different systems or two or three different service providers for any one customer."**



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tive orders transmitted to hand-held devices. (For more on the system's origins within PrimeFlight, see our sidebar "SSR Services").

PrimeFlight continues to use it for its original purpose of dispatching equipment and personnel, but management continues to modify it to better track service performance.

"The system, for example, allows us to easily complete quality control checks on cleaning," Leonard explains. "Our auditors can go through a checklist on the handheld devices and immediately upload the results into a file that is accessible to local management to determine how well we are cleaning aircraft."

With its version of SynTrack, PrimeFlight gets real-time visibility to the location of equipment, personnel and passengers that the company sees as ultimately tying together all its ground support and passenger services.

"We measure everything we possibly can to ensure we are meeting our customer's expectations," Marudas adds. "SynTrack allows us to expand on that capability by setting best



*PrimeFlight Aviation Services began using its management information system in 2010 and currently processes approximately 135,000 "Special Service Requests" a month.*





*PrimeFlight Aviation Services employs more than 3,500 people in ramp services, baggage handling, cabin cleaning and passenger assistance to airlines across the United States.*

practices standards throughout all our locations and giving more immediate feedback to our employees on meeting those standards.”

In summary, here’s what the system provides:

- Optimizes schedules to support customer service standards based on changing schedules, volume or requirements.
- Supports seasonal staffing and scheduling adjustments.
- Benchmarks productivity to ensure optimal performance and productivity.
- Provides service quality and productivity trend analyses.

The company started using SynTrack in 2010 at two airports and has since implemented the program in nine other locations with a total of 12 sites expected before the year’s end.

Over that time, PrimeFlight also decided to upgrade all its handheld devices to the Motorola ES400 PDA.

“It looks like an over-sized iPhone,” Leonard says. Employees easily get instructions through the device and can “time stamp” procedures from beginning to end.

A key feature is that large touch screen. The SynTrack software allows the company to configure the screen so that any number of activities can be organized and tracked by time and location.

“When events are within our set standards, they stay green,” Leonard says of the Motorola’s screen. “But if we are approaching that minimum time that we’re allowed to complete the job, it will start to flash.”

Those challenges can be communicated to a supervisor who can immediately make needed adjustments. Management, however, can use the important information captured by the process to determine at a later time, if there are bigger issues that need to be addressed in order to get the job done promptly.

“From a service perspective, that’s huge,” Leonard adds, “and it leaves absolutely nothing to chance.”

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# A Primer On Air Cargo Security

The industry readies for a December deadline to screen all cargo on international passenger planes bound for the United States.

by Steve Smith

**O**n Dec. 3, the Department of Homeland Security will enforce a new regulation requiring air carriers to screen 100 percent of all cargo aboard international inbound passenger flights. So how prepared is the cargo industry? What still needs to be done? And what's the difference between "screening" and "scanning," anyway?

## How did we get here?

The initiative was mandated as part of the recommendations of the 9/11 Commission Act that President

George W. Bush signed into law in August 2007. Originally, legislators set a deadline of August 2010 to screen all such air cargo. The law required the Department of Homeland Security to establish a system that would screen all cargo transported on passenger aircraft to be "commensurate" with the level of security used for checked baggage.

## 'Commensurate?' Please explain?

The law does require all air cargo to be screened by the TSA at the "piece level" prior to transport on passenger aircraft for flights inbound for the United States. Keep in mind, this 100 percent screening cargo rule is already in force for domestic passenger flights and has been since 2010. Also, according to the TSA, more than 80 percent of cargo on international passenger flights bound for the United States is already being screened, up from around 65 percent two years ago.

*Scanning air cargo represents a huge challenge since a typical container may have been consolidated into shrink-wrapped pallets before it arrives at an airport.*



## FACTS & FIGURES

Air cargo represents **\$60 billion** in annual airline revenue and transports **35%** by value of all goods traded internationally.

Information provided by IATA.



*The air cargo industry advocates a system of electronic documentation that assures that nobody tampers with cargo as it moves through the supply chain.*

**But cargo isn't exactly a suitcase. How can this be screened like passenger bags?**

Like a lot of laws, legislators offered little direction at the time the bill was made law. At the moment, the TSA provides shippers with a list of approved screening technologies:

**X-ray.**

**Explosives detection.**

**Explosives trace detection.**

**Metal detection.**

But much of this technology on the market today is designed to screen baggage not cargo.

**So how is the industry expected to screen cargo?**

There are a couple of programs in place, including many supported by the air cargo industry. For example, the TSA's National Cargo Security Program recognizes other nation's air cargo screening security programs. Last June, the United States and the



## FACTS & FIGURES

About **1/2** of the hold of a typical passenger flight is filled with cargo.

Over **1/3 = 4 billion tons** of cargo was shipped to the U.S. in 2010 via passenger aircraft.

Information provided by  
Department of Transportation.

European Union, Switzerland and Canada agreed to recognize each other's air cargo security procedures. "We strongly support efforts to enhance security of the air cargo supply chain without unduly disrupting vital commercial flows," says Michael Steen, chairman of the International Air Cargo Association. "Mutual recognition of robust security regimes is an important way to further this goal."

### How different is what we do in the United States compared to what, say, the Europeans do?

The entire world stepped up cargo security measures after the 9/11 attacks. The TSA, for example, imposed strict protocols at the last departure point to the United States. Meanwhile, the European approach focused on ensuring that cargo, once it had been screened at its point of origin, could not be tampered with at any point along its route. Prior to the agreement, having these two procedures meant separating cargo bound the United States in airport warehouses for special processing that duplicated previous work and administrative paperwork. The costs of all this extra effort were passed on to the customers in the form of higher shipping rates. The additional handling procedures all but guaranteed longer shipping time, too. "Air cargo is by definition naturally urgent," says Slim Kallas, the EU's transportation commissioner. "Cutting out the duplication of security procedures will mean huge savings for cargo operators in terms of time and money."

### Any other countries?

Brandon Fried, executive director of the Airforwardsers Association says there are currently 20 more agreements in the pipeline. "The absence of a screening agreement with the U.S. should not imply that those countries are failing to inspect cargo on U.S.-bound planes," he says. "All countries are taking steps to secure departing flights ..., but these steps

may not be consistent with current U.S. practices."

### That's great. But cargo is still not a suitcase.

"Screened" doesn't necessarily mean "scanned" through an X-ray machine or other device. Screened can mean evaluating the contents, sender and destination of packages and doing more intensive inspections on high-risk

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## FACTS & FIGURES

**More than 80%**

of cargo on international passenger flights bound for the United States is already being screened,

up from around **65%** two years ago.

Information provided by TSA.



*On Dec. 3, the Department of Homeland Security will enforce a new regulation requiring 100 percent cargo screening on international inbound passenger flights.*

cargo. Consider what the industry did to screen 100 percent of the cargo on domestic flights for at least a direction. While U.S. politicians have pushed for physical inspection of every parcel and pallet that enters an aircraft, the global airfreight industry has argued that such an approach risks paralyzing some 40 percent of the value of global trade. The TSA's Certified Cargo Screening Program for domestic flights includes procedures for known and established

shippers, deploying explosive detection canine team and conducting covert tests and surprise inspections of cargo operations. A CCSP facility must be approved by TSA and adhere to strict security standards, including physical access controls, personnel security and screening of prospective employees and contractors. A secure chain of custody must also be established from the shipping facility to the aircraft.

Scanning air cargo represents a huge challenge since a typical container may have been consolidated into shrink-wrapped pallets before it arrives at an airport. As a result, the Air forwarders Association says more than half of cargo screening in the United States is conducted at off-airport sites. The trade group says screening of smaller pieces of cargo at these sites before pallet consolidation is one reason the TSA



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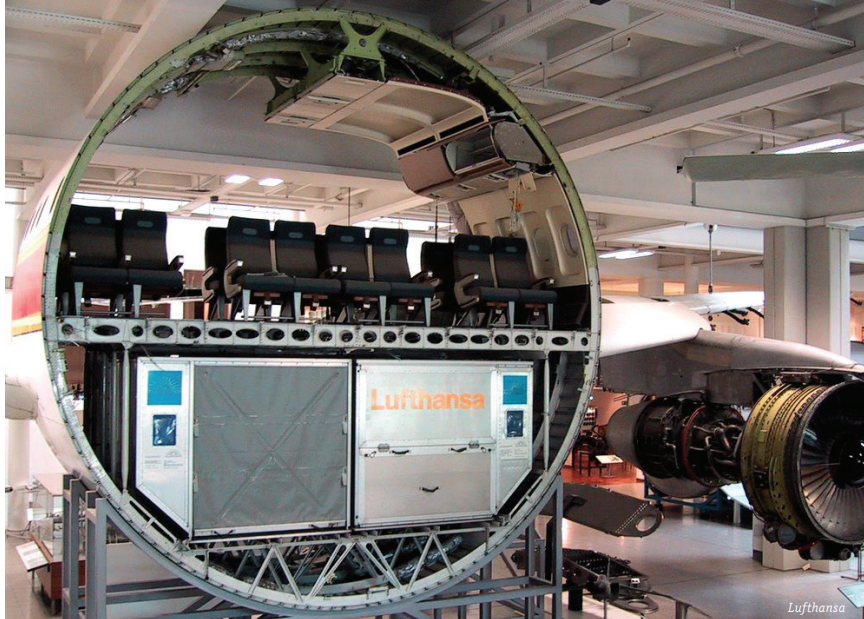
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met the 100 percent screening mandate for domestic cargo on schedule.

**So, in other words, certify shippers and those procedures before a shipment reaches the airport?**

Almost all the security with baggage is focused on one moment – when passengers hand over bags at the airport. There isn't any one such moment with cargo, but there are a lot of little moments along the way. While U.S. law stops at the border, other countries could adopt this as its model. Besides, multinational forwarders and shippers, many of which may already be regulated in the United States by the TSA through the CCSP, command a lion's share of the international air cargo business.

**Any other programs in the works?**

For its part, the cargo industry also has thrown its support for the Air Cargo Advanced Screening pilot

*Cross section of an A300 showing the cargo hold beneath the passenger section.*

program that just started in 2011. With this program, airlines send manifest data to U.S. Customs and Border Protection several hours before departure, which should further bolster inbound screening. By analyzing this data in advance, TSA and CBP have a fast and efficient way to screen vast

amounts of cargo and zero-in more quickly on the precise items requiring further scrutiny. These are just a couple of programs for the actual shipping process, but there are other initiatives to standardize electronic data. The International Air Transport Association, for example, has been working through the recently established Cargo Security Task Force with the World Customs Organization and the International Civil Aviation Organization as well as carriers and regulators worldwide to harmonize these requirements.

**So how would you sum this all up?**

The key is to identify trusted shippers – and then focus on screening suspicious packages. And by that we mean, pulling it out of the mass of an otherwise legitimate container. The air cargo industry advocates a system of electronic documentation that assures that nobody tampers with cargo as it moves through the supply chain. ■

## FACTS & FIGURES

Air cargo between the European Union & the U.S. amounts to **over a million**

tons a year travelling each way across the Atlantic,

over **20%** of all outbound air cargo from the EU.

Information provided by the European Commission

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# Give Me The Right Instructions – Please!

Accurate technical documentation is a serious point of frustration and misunderstandings can lead to safety risks.

by Katrina Avers, Ph.D., Research Scientist, FAA

**I**n the June/July issue of *Ground Support Worldwide*, we took a look at regulatory inconsistency, focusing on documentation and procedural issues and how steps taken on the industrial, governmental and individual levels could greatly assist in reducing these problems. This month, we're looking at things from a different angle.

How many times have you started a project and been completely frustrated by the instructions? I think at some point everyone has used a technical manual or read instructions that did not have the right information. Sometimes the part

numbers do not match. Sometimes the graphics, diagrams or pictures are impossible to follow. Sometimes the procedural steps are out of order. And sometimes they tell you to use the wrong tool.

We have all thought at some time or another that the people writing our instructions have lost touch with us, the end-users. We wonder if they ever did the job they are describing.

Content accuracy in technical documentation is a serious point of frustration and misunderstandings can lead to safety risks. In ground services, we must have the right data at the right time and in a usable format for the

environment at hand. But if someone is unsure of the proper operation of a belt loader, for example, the procedural documentation must not only be handy, it must also make sense.

Today's organizations are challenged and must strive to empower workers with the right resources, information and skills to address day-to-day issues. The technical information must be accurate.

Panel members prioritized two key strategies for improving content accuracy:

- Reporting systems to recognize when the technical information is incorrect or confusing.
- Properly integrating technical information from one document to another.

## REPORTING SYSTEMS

Many companies have a non-punitive reporting process to promote worker-centered hazard identification. If you don't have one, get one! Make it easy for a worker to report perceived problems, from small to large.

If you already have a reporting process, you must demonstrate that actions are addressed when they are reported. If people never know that their voices have been heard, they will likely stop reporting.

One success story involves a safety survey where workers pointed out worn wheels and bearings that made it difficult to move equipment. Management responded by immediately establishing a program to identify and replace worn rollers and wheels. That quick action/feedback loop fostered



Photo Credit to the FAA

*Ground services must have the right data at the right time and in a usable format for the environment at hand.*



worker recommendations for other safety and productivity improvements.

Voluntary disclosure programs are increasingly popular with the push toward Safety Management Systems (SMS). An SMS affects every part of an aviation organization.

Example programs in the United States include the Federal Aviation Administration's Aviation Safety Action Program (ASAP), and the long-standing National Aeronautics and Space Administration's Aviation Safety Reporting System (ASRS). Airlines for America, in cooperation with the FAA, is launching the Maintenance and Ramp Line Operations Safety Assessment (MRLOSA) system.

These programs permit personnel to confidentially report errors, usually avoiding any FAA civil action. For example, ground service staff could use existing government-sponsored programs to report instances of deviation associated with technical publications.

The panel members further suggested the FAA help identify the level of detail and type of information needed in a report to communicate a documentation issue. The details should allow categorization of the reported issue.

For instance, if the issue resulted in an error, was it due to task conditions, training deficiency, accepted practices, and/or quality of the documentation (e.g., design, currency and availability)?

### CONNECTING INFORMATION

Today, ground services are accomplished more rapidly and in faster-paced environments. The relevant technical data and the manuals seem to get larger and larger.

Accessing this data efficiently and accurately has become paramount for the ground services staff to perform its work. Let's face the fact that personnel injury, equipment damage and lost bags are most likely caused by a

failure to follow procedures. Good procedures and correct information are critical if we expect people to follow them.

### Make it easy to get procedural

**information:** Easy access to the procedures will ensure that all work is completed safely, efficiently and effectively. Procedures, when followed consistently, ensure that the right things happen every time.

**Provide the right tools:** Delivery tools should be developed to allow for the single point-of-use of all relevant data associated with a task. In today's ramp environment, companies must address the emerging requirements for real-time, mobile and point-of-use access to data or instructions.

### Provide the right solutions:

Data from multiple sources need

to be connected so users can go to a one-stop information shop. This will provide the opportunity to improve access, understanding and oversight of ground service operations for all involved.

### TO DO LIST

Content accuracy is a recurring challenge in technical documentation and a hazard in every aspect of the aviation system. This is a problem that requires industry, government and individual action. What can you do?

### Industrial Actions:

Manufacturers should take the lead to standardize documentation format:

- Evaluate the utility of new technology and its delivery of procedural information.
- Seek employee and customer guidance on this topic.
- Obtain and demonstrate corporate commitment to this effort.

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## Five Roadblocks That Make Following Orders Difficult

**A government and industry workshop met earlier this year to untangle the web of technical information and regulations and make it easier to follow procedures. (See "Procedures 101," April 2012, *Ground Support Worldwide*.) At the end of the two-day summit, the attendees identified five roadblocks and what could be done to remove them:**

- Consistent technical documentation. (See "How To Play By The Same Rules," June/July 2012, *Ground Support Worldwide*.)
  - Accurate content for users. (This issue.)
  - Industry culture and professionalism. (October 2012.)
  - Business case for documentation improvement. (December 2012/January 2013.)
  - Industry standards. (February 2013.)
- Consider developing a single portal where contents are similarly formatted and easily accessible.
  - Encourage voluntary reports about documentation in advance of an event.
- Governmental Actions:**
- Coordinate with industry.
  - Collect the data and insist on a rapid transition from data collection to information reporting and application.
  - Encourage voluntary reporting and special emphasis on procedural and documentation-related challenges.
  - Create checklists to assess the quality of written procedures (applied R&D effort).
- Individual Actions:**
- Give advice/suggest your ideas for improved access to procedural information.
  - Report all difficult company or manufacturer instructions to your management.
  - Use voluntary reporting systems to highlight the documentation challenges.
  - Take responsibility to help make procedures and documentation better.

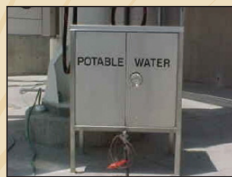
The ways to address the hazards associated with content accuracy in procedures and technical documentation are clear. Join together, use non-punitive reporting systems, strive to get to the root of the problems and try new solutions.

The challenges of following procedures and providing accurate technical information are big. It is not a problem that will fix itself. Addressing the accuracy of technical information is an opportunity to ensure continuing safety and to improve the company's bottom line.

Stay tuned for future articles that address the remaining top challenges and solutions in technical documentation. ■

*Dr. Katrina Avers is a Research Scientist at the Federal Aviation Administration in the Civil Aerospace Medical Institute Human Factors Research Lab. Dr. Avers takes a practical, science-based approach and has worked to develop applied solutions that can be used across the industry.*

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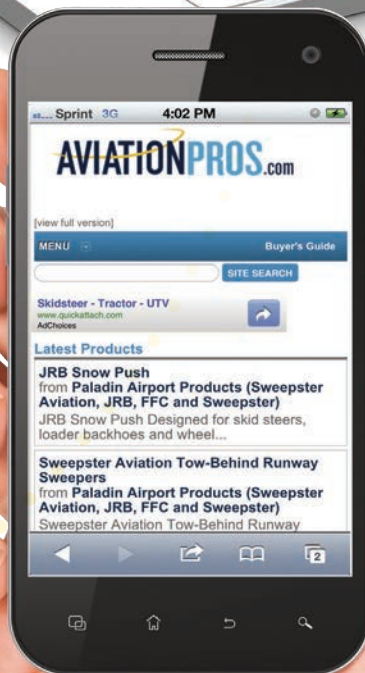


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# Availability Of GSE (And An Explanation) Always Matters

Always inform your customers of what is going on, especially when you *are* at fault.

By Tony Vasco

**H**aving retired after 53 years of employment in the airline industry, I admit to having a sneaking interest in railroads and especially engines. As a child of the 1940s, I was influenced by the dramatic posters of thundering steam engines, many beautifully streamlined, speeding across the plains or winding through a towering canyon with a foam-streaked stream nearby.

Then, too, I traveled transcontinental once when I just 7 and experienced some of those sights. Of course, they didn't compare to the big Martin and Boeing transoceanic flying boats that I could see in New York.

So one way or other, my course was never in doubt and aviation maintenance became my passion.

Eventually, with the demise of my employers so went my travel benefits, and I was reduced to paying for my seat. Then security measures I first saw in the early-1970s to prevent hijacking blossomed into the often unpleasant experience we've all come to know since 9/11.

With all this in mind, I decided to put together a scenic, solo trip by train. From Denver, I would head to Sacramento through canyon country and desert. Then turning North, I'd travel up the coast to Portland. After an overnight hotel stay, off to Chicago and on to New York.

It was pretty ambitious for someone 78 years old and less than a month out of surgery along with the simultaneous loss of his wife. But I needed to clear my head. A change

of scenery, not to mention my twin grand-daughters waiting to see me in New York, would do me good.

So off I went with plenty of hand-wringing from my kids. The first part was grand. It was in Portland that I found train travel trouble. My train to Chicago actually came in from there, but split in Spokane. One half went to Portland where I was, the other half to Seattle.

## UNSTRAIGHT STORY

It was here that Amtrak displayed a basic weakness not unknown to the airlines. They couldn't get their story straight. Apparently, the freight line that owns the tracks on the Spokane-to-Portland leg decided without notice to replace the wooden ties with concrete ones. No doubt a needed repair, I guessed, but in summer ... at peak travel time?

Amtrak's solution was to bus us a mere 7½ hours to Spokane to meet the train, all of which had gone on to Seattle. My solution with 100 others was to take a comfortable 4-hour train ride to Seattle and meet it there.

The train had indeed arrived, discharged its passengers and needed to be physically turned around, cleaned and provisioned. At this point, we started hearing stories. A locomotive on our train had a mechanical problem. Then the story became a hopper car had dumped tons of crushed rock on the track blocking our train followed by the one of two freight locomotives derailling.

In truth, our train was turning around using track laid out in an inverted Y. Run up one leg, back down the other, then ahead on track joining the two bottom forks of the Y. That old villain, the computer betrayed them. The Seattle yard had a computer system to control switches and allegedly switched one wrong. Both locomotives derailed. That a malignant computer did it ... well, maybe! More likely, GIGO with people putting the wrong info in, and garbage, such as bad switch settings coming out.

Say, wait a minute! Isn't this a GSE magazine? OK, here comes the part where we can all relate.

There was no heavy lift crane in the Seattle yards. A locomotive seriously off the track is like a whale on a beach. And we had two! Sixteen hours to get one there. Then, there might be damage to the locomotives.

Amtrak won after all since they took us all to Spokane by bus – now only a mere 5 hours away. At least I got to pass Moses Lake where Boeing conducts flight training. At Spokane, Amtrak grabbed the next day's train that had just arrived, took the inbound pax off and yes, put them on buses to Seattle and Portland.

Great job on the quick turn for us. But there was no catering in Spokane. Our last dinner on the way to Chicago was rice in white sauce with cut-up bits of ham eaten with plastic spoons off paper plates. Some were considering the Donner



Pass solution, if the trip lasted any longer. Total delay: 16 hours. Infuriating part: Being off schedule, freight had priority.

#### GLASS HOUSE

Having lived in the glass house of passenger airline service, I throw no rocks at Amtrak.

I've been involved in my time with some real screw-ups – the only polite way to put it.

For several years, for example, Eastern had chartered a plane to a group of lawyers for their convention. One year the group was larger than ever, and we were to use one of our leased B747-100s. We had already managed to have delays in the two preceding years and Frank Borman was eager to show we could do it this time.

Well, it all rolls downhill and my Tech Group was told to focus on that one departure. After an overnight at JFK, the plane was looked at, checked,

double-checked, re-checked and double-re-checked. As far as we could see, it was ready to go.

Having finally gotten loading bridges around this time, we could not see the lawyers getting on board. About all I could do was cross my fingers as it was pushed back. The number three engine began to wind up and, at the appropriate speed, they opened the HP cock – and a large fuel line in the pylon split-open as evidenced by a cascade flowing down and over the engine.

We had maintained our record for the third year in a row. As it turned out, we wouldn't get a fourth! Col. Borman was not amused, but versed in the vagaries of rockets and planes, he still understood.

While difficulties involving passengers are bad enough, I've also had trouble in the middle of the night. We had rented a crane at double-time for night work, and we were all set to lift an engine off a truck.

The hook, however, wouldn't fit into the engine sling, and we needed a shackle to link them. Even after all these years, I'm still embarrassed to think of this. The Port Authority policeman found it hard to adjust to the fact that at 2 a.m., the Eastern maintenance manager at EWR was apparently pilfering a shackle off a construction crane from the top of a van being driven by the Eastern stores supervisor.

After some pleading he allowed me to take it, escorted us back to the gate where we were swapping engines and then escorted me back to ensure I returned the piece to the crane. He was a good guy and understood why after I showed him the rental rates for a crane.

Anyway, the moral of the story is to always inform your customers of what is going on, especially when you are at fault. Make sure the facts are accurate, and you may even beat an arrest. ■

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# Southwest Airlines Introduces Cargo Companion

Electronic device goes along for the trip and keeps track of location and environmental conditions of time-critical and temperature-sensitive freight.

by Abbie Reetz

One of the most important factors in shipping is getting a product to its destination as quickly as possible, but just as important are the conditions in which the cargo is shipped. From items improperly handled, damaged or even lost, the thought that anything can happen from the time a product leaves the shipper's hands to the time it arrives at its final destination is a cause of stress and worry for many who frequently ship important cargo.

Many airlines are doing their best to alleviate this concern for their customers. Asset tracking technology for air cargo typically starts and stops in the plane's cargo hold. Southwest Airlines Cargo, however, just took this technology much further with its Cargo Companion.



*Southwest Airlines' Cargo Companion device can monitor shipments not only in the air, but on the ground and right up to delivery.*

## Door-To-Door Tracking

Southwest Airlines Cargo spent a year testing the Cargo Companion to make sure the technology works in the air, on the ground and right up to the point the shipment is signed for.

"We're seeing a steady increase in demand for medical and pharmaceutical shipments, which require cold-chain procedures," says Wally Devereaux, director of sales and marketing for Southwest Airlines Cargo. The device is only available for cargo customers using the airline's "Next Flight Guaranteed Service."

"Same-day commercial air cargo is the fastest and most efficient means for shipping these types of products," he adds.

Specialty logistics and transportation companies such as LaserShip and Quick International Courier have already used the Cargo Companion to ship organs, blood, bone marrow and tissue for transplant or research, all of which require strict adherence to cold-chain protocol.

In addition to its many tracking capabilities, the device can immediately report handling mishaps or temperature deficiencies that allow shippers more time if they need to arrange an alternate plan.

These early warnings are an important feature according to Marie Vigliarolo, vice president of marketing for Quick International Courier.

"For every shipment, we need a Plan B and even a Plan C," she says. "If a problem occurs during transit, every second is precious and the technology buys us time to jump-start a contingency plan."



*The Cargo Companion weighs 12 ounces and is about the size of a smart phone.*



The 12-ounce wireless electronic device is about the size of a smart phone making it easy to pack in with the shipment.

**“The device automatically goes into airplane mode, which turns off its wireless radio signal, but continues to allow it to monitor the cargo.”**

“It includes sensors that read temperature, humidity, pressure, shock, location and vibration with additional intelligence that tracks other conditions and the location of the package,” says Colin Rogers, senior manager of specialty sales for Southwest Airlines Cargo.

What makes the Cargo Companion different from other asset tracking devices is what Rogers refers to as “cradle-to-grave tracking.”

The device has the ability to monitor cargo not only in the air, but on the ground as well. In fact, the cargo is tracked right up to delivery, giving the customer complete visibility regarding their cargo for the duration of the shipment. It also gives Southwest Airlines Cargo full chain-of-supply tracking for cargo on all of its flights.

“Customers know that their shipments are being watched and tracked throughout transit,” Rogers explains. “In the event of a temperature alert or an unavoidable delay, e-mail notifications give shippers more time to initiate a contingency plan.”

Sensors alert the customer if storage conditions become unfavorable or if damage occurs en route. The Cargo Companion even includes light sensors that identify if and when a package has been opened prior to delivery.

E-mail alerts are sent as the cargo reaches various checkpoints along its journey, such as origin airport, destination airport and final destination. Tracking by air waybill is also provided, allowing the customer

to view the shipment status online at [www.swacargo.com](http://www.swacargo.com).

The Cargo Companion’s number is added to the customer’s air waybill,

and instructions for returning the device are included.

“These devices have already been used very satisfactorily within the general transportation industry, but this technology is relatively new to the air freight sector,” Rogers adds.

The Cargo Companion adheres to all criteria set by the FAA. It is even able to switch into a special setting upon take off in order to comply with FAA regulations on “switching off all electronic devices”

while continuing to monitor and update the status of the cargo.

“A feature allows the device to automatically go into airplane mode, turning its wireless radios off without human intervention,” Rogers says. “But at the same time, the sensors keep working to monitor the cargo.”

#### Product Features

- Monitors the location, shock, vibration, temperature, pressure and humidity of cargo during transit.
- Enables customers to track the status of shipments on [www.swacargo.com](http://www.swacargo.com)
- Notifies shippers with prompt e-mail alerts when a shipment has safely arrived and also informs them of any issues during transit. ■

*Abbie Reetz was a summer intern for not only Ground Support Worldwide, but Airport Business and AMT.*

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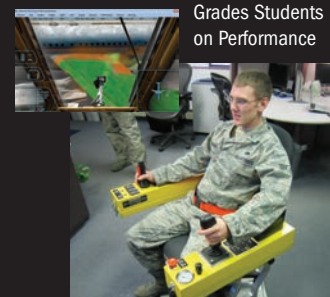
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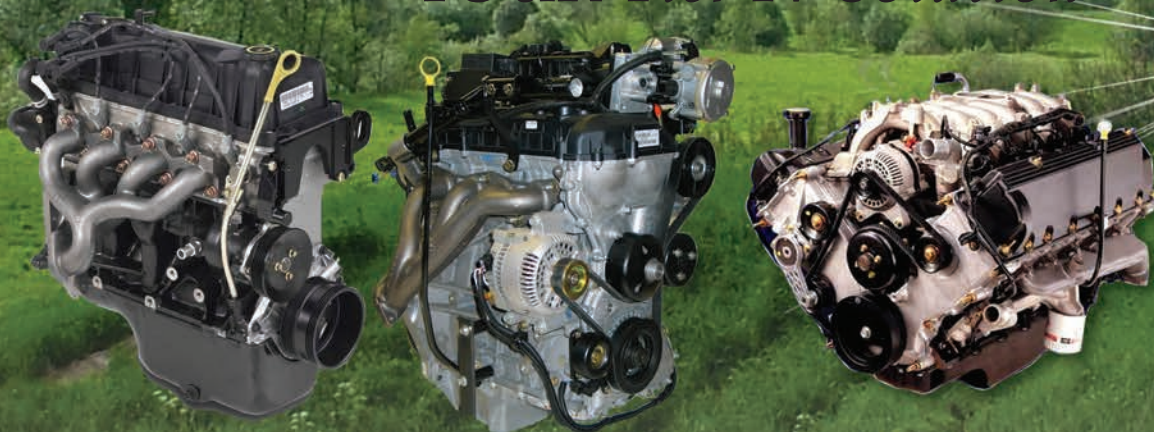
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