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April 2013

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## Duluth Terminal TAKES OFF

**The $78 million WOW factor at Duluth International Airport**

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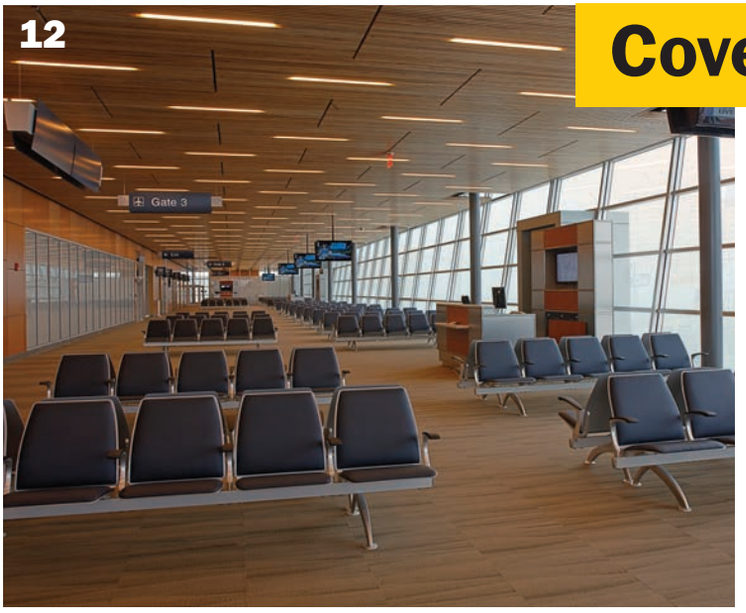
## April 2013




## Cover Story

# 12 Duluth Terminal Takes Off

**The $78 million *wow* factor at Duluth International Airport**

**By Tim Kern**

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**Biz Jets are Biz Tools**
by Ralph Hood

**Inside Airport Security**
**Can't Make This Stuff Up**
by Art Kosatka


**VIDEO Network**

**Ronnie Garrett,**
*Editor*

# *Tweet:* 'You're Out of Toilet Paper in Terminal A'

An airport director recently shared an amusing story. He said the airport's social media policy worked so well that when they received a Tweet about a lack of toilet paper in one of their restrooms, they were able to remedy the problem in less than 60 seconds.

While his story put a smile on my face, the situation he describes might have been no laughing matter if this Tweet had gone viral and cast the airport in a negative light. Instead the airport's responsiveness generated a second Tweet complimenting them on how quickly they resolved the problem.

Now that's customer service!

My father owned a grocery store for many years and as a teenager, I often tired of his responses to my complaints about this or that customer. He would tell me "the customer is always right" and that I needed to do "whatever it takes to give them the best possible experience when they shop at our store."

In the aviation industry, his words ring especially true. As airports across the United States prepare for further cuts in flights and seats, Michael Boyd, chairman of Boyd Group International, a leader in aviation consulting, research and forecasting, warns of the negative impact these measures may have on airport revenue streams. The reality is: Today's airport environment is highly competitive and passengers, airlines and retail/concessionaires can (and do) pick one airport over another. Because of this, airports need to be attractive, effective, and offer a customer experience that is heads and shoulders above the rest.

Savvy airport directors are making hay by developing and leasing airport lands; adding technology to improve parking structures and increase parking revenue; revamping tired retail spaces to attract luxury retail/concessionaires; undertaking initiatives to attract new airlines; and developing new branding, marketing, and yes, social media strategies, all in the name of building revenue.

*Airport Business* stands uniquely poised to help readers as they position their airports for future growth. As the magazine's new editor, I plan to draw upon my own background as an aviation, security and business writer, and as a business owner, to provide you with editorial that helps you ensure your airport is the best it can be; even as federal financial support dwindles and competition for passengers grows.

To that end, I'm interested in hearing what you're doing in the name of customer service, revenue building and future growth. If you have a story you would like to share or a project you'd like to see featured in the pages of the magazine, send emails to ronnie@aviationpros.com. I too take customer service very seriously — my father made sure of that!



## FAA Forecast Predicts Continued Growth

The FAA recently forecasted air traffic growth over the next 20 years—just at a much slower pace than predicted in its annual report last year.

The FAA Annual Aerospace Forecast report, which provides a comprehensive examination of current and future trends in air transportation for the next 20 years, predicts:

- A 2.8 percent average annual increase in U.S. airlines' collective traffic over the next 20 years to reach 1.46 trillion RPMs by 2033. The projected rate of growth is 12.5 percent less than forecasted in 2012 and 26.3 percent less the agency's 2011 forecast.
- A growth in U.S. mainline and regional airline passengers from 736.7 million in 2012 to 1.15 billion in 2033.
- An increase in the passenger jet fleet from 3,782 in 2012 to 4,907 in 2033. The FAA projects the fleet will shrink 1 percent in 2013 and attributes the loss of 38 aircraft to "grounding less fuel efficient aircraft."
- A 4.6 percent annual growth in cargo TRMs over the next 20 years, from 36.4 billion in 2012 to 89 billion in 2033.

As a side note, the FAA reports this forecast does not take into account the impact of U.S. government budget cuts that recently went into effect.

## ASCE Releases Infrastructure Report Card

Every four years the American Society of Civil Engineers (ASCE) issues a report card on the state of America's infrastructure.

The 2013 Report Card for America's infrastructure gave America an overall grade of D+, while Aviation fared slightly worse with a D.

"It is unfortunate that aviation again received a failing grade," says ACI-NA Chairman David N. Edwards Jr. "This report underscores the need for significant changes in the way that airport infrastructure is funded to accelerate efforts to modernize aging infrastructure and improve the nation's air traffic control system with NextGen. Both are needed to position U.S. airports to better compete in a global marketplace."

An Advisory Council of leading civil engineers appointed by ASCE assigns the grades according to the following eight criteria: capacity, condition, funding, future need, operation and maintenance, public safety, resilience, and innovation.

To view the 2013 Report Card for America's Infrastructure, visit www.infrastructurereportcard.org.

## Briefs:

**ACI-NA —** Announces President Gregory O. Principato will step down as of June 30. The ACI board has begun a national search for a successor.

**AIRMALL USA —** Reports the Silver Diner at the AIRMALL at Baltimore/Washington International Thurgood Marshall Airport won "Best Airport Restaurant Design" in the ARN 2013 Best Airports & Concessionaires Awards program.

**ALASKA AIRLINES —** Landed nine out of 10 flights on time in February, according to FlightStats, which tracks more than 150,000 flights per day from airlines worldwide.

**AMERICAN AIRLINES —** Promotes Beverly Goulet to senior vice president and chief integration officer.

**BOEING —** Reports its test flight of the 787 Dreamliner showed the plane's new lithium-ion battery system meets regulatory safety standards.

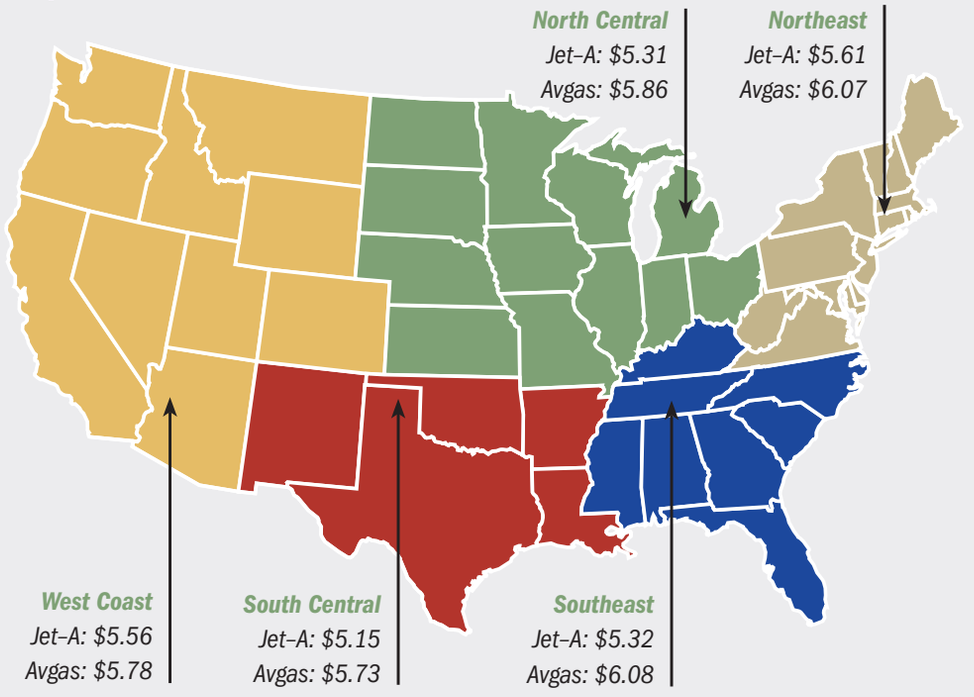
**BOMBARDIER —** Is scheduled to test fly its first C Series jet in June. It is hoped that the planes, which cost $3.4 billion to produce, will help the company penetrate the market for aircraft that seat 100 to 150.

**CHICAGO DEPARTMENT OF AVIATION —** Commissioner Rosemarie Andolino was one of 11 women honored as leaders in the transportation industry at the second annual "Celebrating Women Who Move the Nation" awards breakfast.

**DANE COUNTY REGIONAL AIRPORT —** Breaks ground on the largest municipal solar project in Wisconsin, which will supply half the energy needed to power the new $14 million green-certified snow removal equipment building. The building will house more than 26 pieces of essential snow removal equipment.

**DELTA AIR LINES —** Announces plans to add eight destinations and 17 flights at Los Angeles International (LAX) by July to increase its market share at the airport.

## fuel watch




***The following fuel prices were derived from transactions completed with the AVCARD credit card during January. Not all operations sell both jet-A and avgas. The figures for jet fuel prices will be more representative than those for avgas, due to the higher number of transactions recorded. Prices reflect all taxes and discounts. Data is supplied from AVCARD in consolidated format; individual transactions are not disclosed.***

**DEPARTMENT OF HOMELAND SECURITY —** Estimates one in four passengers will qualify for expedited screening by the end of 2013, up from one in 12 in 2012.

**DFW —** Opened its newly renovated Terminal A for American Airlines customers. The changes are a part of a $2.3 billion project known as TRIP (Terminal Renewal Improvement Plan). The plan is to eventually bring these changes to the rest of Terminal A and then to the entire airport.

**FAA —** Closes 149 federal contract towers as part of the agency's sequestration implementation plan. The complete list can be found at www.faa.gov.

**FED EX —** Aircraft mechanics Team FedEx LAX bested more than 20 other maintenance teams to win the inaugural William O'Brien Award for Excellence in Aircraft Maintenance, presented by Snap-on, at the AviationPros Live Maintenance Skills Competition.

**GAMA GROUP —** Appoints Oliver Hewson as commercial manager for its MENA Region.

**GE AVIATION —** Began assembling the first Passport development engine for the Bombardier Global 7000 and Global 8000. Testing of the 16,500-pound thrust turbo fan will begin in the second quarter.

**HMS HOST —** Partners with Hawaiian Airlines to bring premium in-flight meals to passengers.

**IATA —** Expects airlines to produce a combined net post-tax profit margin of 1.6 percent with a net post-tax profit of $10.6 billion (up from the previously projected $8.4 billion).

**ICAO —** Hosted a "high level group" of senior government officials from across the globe to hammer

out proposals for a global solution to tackle aviation emissions. The group has been tasked with delivering a worldwide system, which will provide stringent controls on $CO^2$.

**MIDWAY AIRPORT —** Advances on the move to privatize the airport. The City of Chicago recently selected six groups of airport investors and operators as potential bidders.

**NASHVILLE AIRPORT AUTHORITY —** Names David Griswold as Director of Public Safety.

**O'HARE INTERNATIONAL AIRPORT —** Celebrates its 50th anniversary. When O'Hare was formally dedicated on March 23, 1963, the airport served approximately 16 million passengers through 19 airlines with 426,000 flights per year. Today, O'Hare serves more than 67 million passengers through 50 airlines with nearly 880,000 flights annually. In honor of its anniversary the CDA has created a historical page on its website, www.FlyChicago.com.

**OMA —** Has been selected as the master planners for Airport City, a new development where 200,000 people will live and work, linking the new Hamad International Airport (HIA) with the city of Doha, Qatar. Phase One of the 30-year master plan will be mostly complete in time for the 2022 World Cup, hosted by Qatar.

**SOUTHWEST AIRLINES —** Gets high marks for the best mobile experience, according to new research from customer experience analytics firm ForeSee. Customers gave Southwest a score of 82 on the 100-point scale in terms of mobile satisfaction.

**SUN AIR JETS —** Appoints Brian Counsil as president and CEO.

**SUN COUNTRY AIRLINES —** Plans to add nonstop service between its Minneapolis/St. Paul (MSP) hub and Chicago Midway. Sun Country will offer two daily round-trip flights on the route on two-class Boeing 737 jets beginning July 1.

**TSA —** Is letting airplane passengers formally critique its $2 billion body scanning program. Passengers will have three months to comment.

**TSA —** Beginning April 25, passengers flying on U.S. flights will be allowed to carry small pocket knives — blades less than 6 cm, up to two golf clubs, ski poles, as well as sporting sticks used for hockey, lacrosse, and billiards.

**TULSA INTERNATIONAL AIRPORT —** Announces the Tulsa Regional Air Service Initiative (TRASI), a multi-service approach to air service development that includes community education, data gathering, evaluation of community incentive programs for both Tulsa and peer airports, and information sharing with airlines.

**US AIRWAYS —** And American Airlines form an integration team to handle the $11 billion merger of the two carriers. The airlines hope to close the deal in the third quarter. At that time the holding company will be renamed American Airlines Group Inc. and the merged company will be the world's largest airline. ab

# FBO snapshots

## SWISSPORT RATED 3RD OF THE TOP FBOS

Swissport Executive Aviation Nice, part of Swissport International Ltd., has been voted 3rd among the top FBOs in Europe, the Middle East, Russia and Africa by readers of 'European Business Air News', in recognition of the excellent ground handling services it provides to the international community of operators and executives who use private or corporate jets.

The award is considered a highly regarded indicator of quality within the executive aviation services sector. In a carefully controlled voting process, aircraft owners, chief pilots and operations managers were asked to rate FBO companies, handlers and agents on the basis of their facilities, service, staff and value. Swissport Executive Aviation's Nice/Cote d'Azur Airport facility was rated the third best among a total of 323 facilities in Europe, the Middle East, Russia and Africa.

Rebecca Durrer-Bolle, global sales director for Swissport Executive Aviation & PrivatPort, comments: "We are extremely pleased to receive this recognition from our customers, reflecting the efforts that our staff and partners in Nice have made to meet and respond to customers' needs. Despite the challenging market environment, we recorded a 32 percent increase in flights last year, which we believe reflects the trust that our customers place in our organization."

Swissport Executive Aviation & PrivatPort provide exclusive ground handling services to the international community of operators and executives who utilize private or corporate jets, at 66 stations worldwide. The mission is to make arrivals, stopovers and departures as convenient and smooth as possible for passengers and crew, providing a customized spectrum of aircraft care services.

"The skills, personality and commitment of our staff and the special attention they pay to our customers are key elements of our success. It is our demand to continuously improve this good work and the excellent communication with our customers. Understanding their needs helps us to keep improving the services we deliver," says Durrer-Bolle.

Aviation DataMiner

## U.S. Domestic National Metrics

| Year/Quarter | 2012Q3 | % Change '12 Q3 v '11 Q3 |
|---|---|---|
| Total Passenger | 112,661,405 | -4.4% |
| Gross Revenue | $22,898,920,242 | -2.7% |
| Airline Net Revenue | $19,945,684,645 | -2.5% |
| Average Gross Fare | $219.13 | 2.0% |
| Average Net Fare | $190.87 | 2.2% |
| Ticket Yield | 16.01¢ | 1.8% |
| Nonstop Yield | 16.92¢ | 1.7% |
| Avg. Passenger Trip (Avg. LOH) | 1,192 | 0.4% |

Source: Aviation DataMiner Analysis of DOT/BTS Data

### THE U.S. AIRLINE INDUSTRY CONTINUES TO SHRINK

*Comparing key third-quarter metrics for 2012 versus the year-earlier period shows the continuing airline focus on revenue generation instead of simply passenger volume. Note that while passenger traffic was down 4.4 percent, total net revenues (without taxes and federal fees) declined just 2.5 percent, and the average fare paid was up 2.2 percent.*

*This is reflective of the overall strategy of reducing capacity to increase unit revenues. Airports across the United States should prepare for further cuts in flights and seats, and the effects this will have on airport revenue streams.*

# Making Connections

**Smartphones and digital devices are giving airports a run for their money as they vie for passenger attention in today's increasingly digital world. To penetrate passengers' technology cocoons, airports need to forge a few virtual connections**

**By David W. Saleme**, *A.A.E.*

Connecting with passengers in a busy airport environment is critical to facility owners—not only to provide directional and flight information, but also to maximize non-aviation revenue generation through advertising and marketing opportunities, communicate safety and regulatory messages, and provide information about the community beyond the four corners of the airport. Making these connections is not as easy as it seems, however. Competing messages from a variety of digital platforms, and even the behavior patterns of the travelers' themselves, complicate this task.

Many passengers travel within a "technology cocoon" that began to develop years ago with laptops, and is now virtually complete with smartphones and tablets. Within this cocoon, passengers tend to focus on these devices and less on their surrounding environment. This technology cocoon represents an imaginary surface that is different than airports are traditionally accustomed to addressing.

There are two options to help airports penetrate this technology cocoon. The first strategy addresses utilizing mobile platforms to engage passengers within their cocoons. The second focuses on developing facility kiosks to help draw passengers out of them. Both methods directly engage passengers, and provide information, marketing, and even entertainment, as passengers move through the terminal.


*Port Columbus International Airport installed Clear Channel Airport kiosks designed to grab passenger attention.*

## Get Smart About Smartphones

Recent surveys show approximately 90 percent of airline passengers carry at least one smartphone. It is safe to assume—through direct observation—that many also carry multiple digital devices. Based on this, airports should consider pushing information directly to passengers on their mobile devices.

Airports can take advantage of this trend by designing web pages tailored to mobile devices or by utilizing apps designed specifically for the airport industry (or the specific airport). Scaled down web pages or airport-focused apps typically supply the same information delivered via traditional in-terminal signage. For example, the Clear Channel Airport FlySmart app contains detailed terminal maps that help users locate their position in an airport, find a nearby restaurant, track a flight, and locate ground transportation. It also generates ad revenue for the airport by integrating advertising into the app. All of this information transfers through the technology cocoon directly to passengers on their smartphones or tablets.


***Kiosks provide bright responsive ads for hotels, ground transportation, and other local amenities and attractions.***

## Community Connections

Airports should also consider connecting with passengers outside their technology cocoons by providing opportunities for them to interact with digital signage within the airport. Interactive kiosks are one form of digital signage that grabs passengers' attention and encourages their direct engagement. Like mobile technology, interactive

> Many passengers travel within a 'technology cocoon' that began to develop years ago with laptops, and is now virtually complete with smartphones and tablets.

kiosks allow users to choose what information to display at any given time. But unlike mobile devices, interactive kiosks remain static in the facility. The advantage is these kiosks allow information to be presented in a large format; accessed directly by users in the facility; pushed out to passengers, either through print or to mobile devices; and used to connect passengers to social media.

The Port Columbus International Airport (CMH) installed two versions of interactive kiosks in 2012. Clear Channel Airport completed the first installation as a replacement to its existing digital courtesy phone board. The new kiosks provided bright, responsive ads for hotels, ground transportation, and other local amenities and attractions. Like Clear Channel Airport's old phone boards, these interactive kiosks contained detailed information on each paying client. But unlike the previous boards, upon direct input from the passenger, these kiosks included a "text to phone" feature to replace legacy printers. This new level of integration enables passengers to easily access information from their mobile devices.

The Columbus Regional Airport Authority's customer service team managed the second installation of interactive kiosks at CMH, which was completed in late 2012. These interactive kiosks replaced static information directories. The airport-owned interactive kiosks grab passenger interest through a combination of location and vibrant graphics. Some kiosks were placed in areas where the old static directories once sat, but whenever possible these kiosks were moved into the passenger flow of the terminal. Rotating graphics highlighting community activities help draw passengers to the kiosks. As with static signs, the units offer way-finding via a map, but unlike static signs, they also incorporate graphically detailed directions and estimated walking times. The kiosks also offer checkpoint information, weather details, advertising elements, and terminal concession marketing in an easily navigated, interactive format.

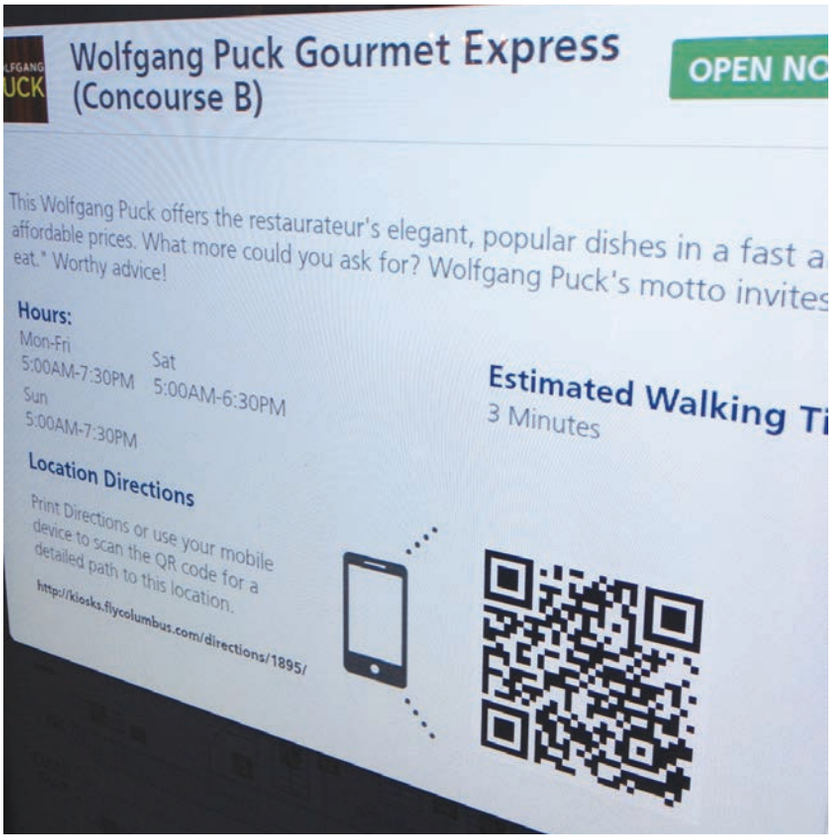
At the kiosks, users can select from several available languages to find needed information. They also can print or send key information to their mobile device by scanning a QR code on the screen. Finally, to maximize user engagement, passengers can utilize the kiosk's "photo and frame" feature to photograph themselves, and then load the image to their phone to email to others or upload to various social media platforms.

## Break Out of Your Techno Cocoon

These are just a couple solutions designed to help airports connect with passengers in today's terminal environment. There are, however, many other options available. But in a sea of ever-changing options, the challenge often becomes sifting through mounds of information to find the right vendor or service for your facility.

To help airports break out of their own industry cocoons, futurist


*Kiosks offer way-finding information via a map but also incorporate graphically detailed directions and estimated walk times.*




*Passengers can print or send key information to their mobile devices by scanning a QR code.*


*The interactive kiosks replaced CMH's existing courtesy phone boards.*

James Canton suggested at a recent conference that airports wishing to stay abreast of emerging trends look beyond the standard industry resources. A potential resource is the Digital Signage Federation (DSF), a leading trade group that provides an international trade show dedicated to digital signage. DSF also provides access and information on interactive technology, out-of home networks, webinars, case studies, guides to getting started with digital signage, as well as training and certification opportunities via its website at www.digitalsignagefederation.org).

Reaching passengers tucked in in their technology cocoons is critical part of airport business. But it's possible to utilize both the technology passengers carry and the technology provided in the terminal environment to keep the lines of communication open. ab

## about the author

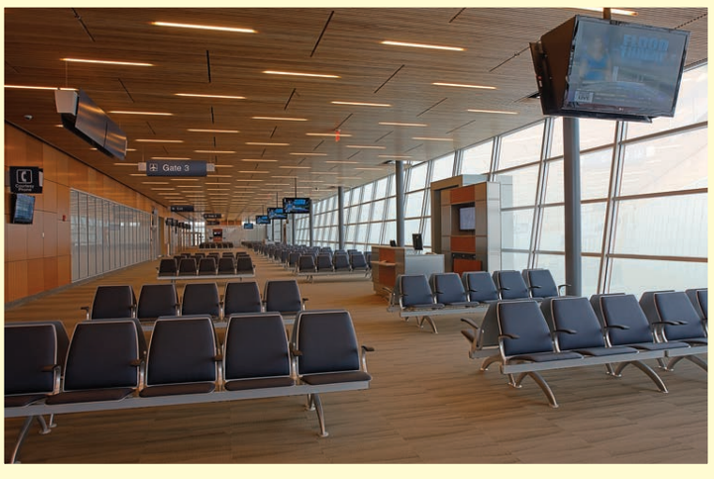
**David Saleme, A.A.E**

David Saleme, A.A.E., joined the Columbus Regional Airport Authority (CRAA) in October 1996. He was hired under the General Counsel's office, with a focus on concessions and real estate. Since then, he has been responsible for terminal and concession development at Port Columbus International Airport, part of which includes terminal advertising and marketing. Saleme's primarily responsible for managing the in-airport advertising program, which includes, in addition to the award-winning video wall system, more than 20 additional digital advertising screens throughout the terminal, and the external digital billboard program.

# Duluth Terminal TAKES OFF

**Duluth International Airport's new $78 million terminal was more than a decade in the making. But the terminal's wow factor makes it well worth the wait**

By Tim Kern



*The new terminal provides plenty of seating and improves passenger flow.*
*PHOTO: BERGERSON PHOTOGRAPHY*

*The sweeping curves of the roof line are reminiscent of the waves of Lake Superior.*
*PHOTO: BERGERSON PHOTOGRAPHY*

*The terminal lets in plenty of natural light, saving the airport money and giving passengers a view of the landscape outside.*
*PHOTO: BERGERSON PHOTOGRAPHY*

Tom Werner, executive director of Duluth Airport Authority, starts the conversation triumphantly, and with some noticeable relief: "We have finally built and opened our new terminal building."

The new facility, more than a decade in the making, was definitely worth the wait.

The $78 million state-of-the-art terminal at Duluth International Airport (DLH) both impresses and awes with a curved roof and mezzanine symbolizing the waves of Lake superior, rippled decorative glass representing the lake's water, haphazard lines in the terrazzo floors inspired by the body of water's cracked ice in the winter, and red paneled walls on the outside echoing the color of the iron ore boats that sail the Great Lake's waters.

In addition, the new terminal meets post 9/11 federal safety and security requirements; includes sustainability features such as geothermal heating, natural lighting and an efficient water system; corrects passenger flow deficiencies in the old terminal; and positions the airport for future growth, an important fact as Werner points to signs that the air travel economy is recovering.

"2012 was our second best year ever, with 322,000 passengers passing through," he says. "With our ability to attract new customers, our numbers will continue to grow. The new terminal will accommodate the four jet bridges that are not used at capacity; and our concourse, with seating for more than 400, which is rarely filled."

## Out With the Old

The old terminal is scheduled to be razed this spring; a fact that wasn't a given at the project's onset.

Originally, the airport considered remodeling the existing space for approximately $39 million instead of building anew. But the basic design of the old terminal worked against the modern security demands of a post 9/11 era. "In 2003, [when they began planning for the project], we were still trying to adjust to the TSA's new norm," Werner says. "After 9/11, it was not easy. There were a lot of unfunded mandates and, of course, the pre-9/11 passenger flow requirements were radically different."

In addition, remodeling the existing facility would not have solved the airport's FAA Part 77 issue (tails penetrating restricted airspace), according to Brian Ryks, the former executive director at DLH (and now executive director at Gerald R. Ford (GRR) International Airport in Grand Rapids, Mich.).

"When we decided how to site the new building, we considered Part 77 clearance requirements; to get aircraft far enough away from each other," Werner explains. "And we found the old building simply would not work. It wasn't just Part 77, however. When we considered passenger comfort and utility issues, the old [1970s-era] building had to go."

As airlines phase out many of their 50-seat jets in favor of larger aircraft, compliance with Part 77 will become even more significant, according to Werner. "… and we'll be ready for it," he says. "If we need to expand, we can add to either end of the facility, without major interruptions."

Ryks says he and the board also considered the long-range effects of predicted changes in commercial aviation, when determining whether to renovate or move forward with a new construction. They determined the existing terminal's floor plan was impossible. "There were two separate security checkpoints for about 120 passengers each, and no restrooms!" Ryks says.

The original terminal had been built for far fewer passengers than the airport sees today. While airline tenants remain stable with Delta (to MSP, DET), United/SkyWest (ORD) and Allegiant Air (to LAS; seasonal service to SFB Orlando/Sanford); and IWA (to Phoenix/Mesa twice-weekly service), passenger growth continues.

"Over the last 30 to 40 years, traffic has grown tremendously," says Werner. "Even before 9/11, we were facing capacity issues, which became more and more obvious as we ramped up to our record year (2007), when we had 350,000 passengers."

Werner adds, "This was a 10-year process, design plus construction — a big project." Given the airport's small staff of 21, they decided it best to hire a consulting firm with experience in erecting commercial buildings to manage the project. They ultimately decided upon Kraus-Anderson Construction, a Minn.-based firm with more than a century of experience managing commercial construction. "Kraus-Anderson's Mike Dosan, the senior project manager, was with us day to day, handling the construction plus the administrative hoops," Werner says.

"One of the best things we did was hire Kraus-Anderson (in nearby Bemidji)," says Ryks. "I didn't have the staff for a project — we had an airport that we had to keep running. [Kraus-Anderson] ensured that we got good bid prices."

Also key to the project's success was keeping the FAA involved and informed, from the start. "In Minneapolis, Chicago, and D.C., they were up to date. They understood our frustrations; and they were very helpful in keeping this program rolling along," Ryks says.

## Beyond Borders

All of DLH's international flights are unscheduled; the airport's "international" segment is on-demand. And, the old terminal's international space was unworkable.

The airport's new international space utilizes flexible floor planning to meet fluctuating international demand, an idea that came from Minneapolis International Airport (MSP). Ryks was connecting through MSP and noticed "they had walls that dropped from the ceiling, for those times when there were [international] flights. That's when I got the idea [of flexible space]."

The entire terminal now handles domestic passengers and reserves a gate on the end, to serve as a part-time international/customs facility. With the remodel, this section can be partitioned with a metal curtain for international arrivals. "This positions us well to airlines' international requirements," Werner says.

John E. Hippchen, project engineer and architect at Reynolds, Smith and Hills Inc., a national facilities, infrastructure, and aviation consulting firm, says, "The new terminal is roughly the same square footage as the old, but much more efficient. The federal inspection station was separate; now, it's behind movable partition walls, so that when there is no international flight, we can use the space for normal operations. The international baggage carousel is also thus available."

## Going Green

The Reynolds, Smith & Hills-designed terminal is Leadership in Energy and Environmental Design (LEED) certified because of the green features it incorporates. "We embraced 'green' construction," says Werner. "We're LEED Silver certified. We looked at a lot of long-lasting innovations."

The goal, however, wasn't necessarily to be "green," though that certainly is a nice benefit. The goal was to make as much use of everything available naturally. During construction, they used regionally made products and recycled materials as much as possible and 75 percent of the construction waste was diverted from the landfill.

To create a geothermal heating and cooling system, crews drilled 80 wells, 500 feet deep and 10 inches in diameter into a geothermal water table, where water is 54 degrees Fahrenheit and thus can be used for both heating and cooling. The $5.2 million geothermal system is predicted to save the airport $30,000 in annual utility costs. But it is unknown at this point what the actual savings will be since the system has only been in use since January.

### SERVING UP SUSTAINABLE FEATURES

The new airport terminal incorporates a host of green features to net it a LEED Silver Rating. Some of its green features include:

- A $5.2 million geothermal system
- Extensive use of natural light
- Low-flow faucets and toilets in the restroom
- Energy-efficient lighting fixtures
- Radiant heat in the floors
- Triple-pane glass to reduce noise

"Using natural thermal resources frees up money we can use to improve the customer experience," says Werner. "The geothermal system will handle the entire cooling load in the summer, and 'a significant portion' of winter's heat load."

A 40-foot window facade in front allows natural light to flood the area, which reduces the airport's power requirements for artificial lighting. Heated walkways also save money by lessening the need for snow removal and reducing the potential for slips and fall accidents, says Ryks.

## Parking Headaches

According to Hippchen, the new build was "challenging because of the location of the terminal — we needed the new parking before we could start building the terminal; and we had to maintain full access during construction. Phasing the construction and maintaining convenience for passengers was a bit of a logistical challenge."

The new parking garage holds approximately 400 cars. There are also long- and short-term grade-level spots, a cell phone lot, employee and rental slots, for a total of 1,283 spots. "The loss of about 150 spots to the garage of 400 was a good trade-off," he says.

**A $5.2 million geothermal system could save the airport as much as $30,000 annually in utility costs.**

The traffic flow throughout the parking areas and near the terminal building is improved. The old facility had single drop-off lane, for everyone. "At times it could get very congested, and potentially it was not too safe," says Werner. "Now we have two parallel lanes; one is exclusively commercial — taxi, livery, hotel shuttles."

DLH also overhauled revenue source management with parking, and will be phasing in an e-tag system to track commercial vehicle use, for tracking and cost recovery on a per-use model, rather than a blanket yearly fee. Further, Werner says, "We've gone through our airplane and tenants' agreements, to look for ways to make them more consistent and better for all."

## Baggage Up

After 9/11, baggage systems everywhere needed revamping. Here, DLH experienced some growing pains as it struggled to comply. A new baggage system was needed that worked with current and anticipated security requirements, and was convenient for customers too, says Werner.

"We now have two fully automated lanes that are designed to run one at a time, with full redundancy," he says. "For added assurance, we also have a third lane that's manual; and there is a fourth lane for oversized baggage.

"We commissioned and tested all these systems before opening," he continues. "TSA's third-party contractor brought in all sorts of baggage to see where we would find any troubles. The installation company also tested this — for weeks. We tested for nearly two months, and it was one of the things that went smoothest on opening day (officially January 14, 2013)."

## Paying for the Project

Ryks says his biggest headache was getting, keeping, and perfecting financing. Many sources — FAA, Minnesota, and ultimately Duluth and others — were employed; each with its own headaches. But his efforts paid off — the entire tab for the project was paid for with federal grants and state bonds.

"We didn't want to go outside our 'self-sustaining' status at the airport. We didn't want to put additional demands on the taxpayers. I thought this would be a real win, if we could pull this off without additional local taxpayer dollars. Ultimately, we were able to do that."

He credits the help of others and working hard to sell the project to others as the reason for their financing success. "Northwest helped us with the state legislature to secure approximately $16.6 million in state bonding. It's not a loan; you find a match," says Ryks. "We used federal discretionary money. That was challenging — the state was looking at budget so we really had to sell this. We would have lost substantial FAA dollars, if we couldn't get approval."

Paying contractors was a challenge since Congress balked on long-term FAA financing. "With Congress's inactivity, we lived on continuing resolutions. We'd get our bids in, and then we'd wait to see what the FAA would get as 'discretionary' money. It was frustrating … Contractors don't like to work that way, either. We'd continue to extend our Notices to Proceed, from 60 to 90 days; then we'd push it out to maybe 120 days. In Duluth, we don't have a long construction season. The timing … was a big challenge."

> "Using natural thermal resources frees up money we can use to improve the customer experience."
>
> *Tom Werner, executive director, Duluth Airport Authority*

The FAA money goes through the state's aviation department, which also slows the process down. "We issue pay requests to the state, they sent them to the FAA; the FAA then reimburses the state, and the state pays us. And, during this project, the state government shut down." Ryks arranged a $4 million line of credit with Duluth. "Then, right after the state shut down, the FAA shut down. This was an $80 million project. It probably could have been done in 2 or 2 ½ years; but because of the lack of an Aviation Bill, the shutdowns and the uncertainty, it took more like four years. "

But Werner explains that he's happy to finally be open for business and only 0.5 percent over budget to boot.

"It's taken partnerships locally and at different government levels, including MDOT, FAA, TSA — so many people had to come together between here and Washington, D.C. to get this done," he says. "It really speaks to the dedication of those who were involved." ab

### about the author

**Tim Kern**

Tim Kern, CAM, MBA, is a freelance writer based in Anderson, Ind., who specializes in aviation issues.

**Ralph Hood**
*Certified Speaking Professional; Member, Alabama Aviation Hall of Fame*

# WIA— Still Growing & Thriving

## The 24th Annual International Women In Aviation (WIA) Conference left me as impressed as ever by the women in aviation

The 24th Annual International Women In Aviation (WIA) Conference took place recently in Nashville and left me just as impressed as preceding conferences.

WAI is a large aviation group that appeared after I came on the scene, and watching it grow has been a bit awesome. A visit to the exhibit hall says a lot about the group. Exhibitors are a veritable Who's Who of Aviation, and many of them come to recruit employees.

Boeing was there as were Pratt & Whitney, American, Delta, JetBlue, and most other airlines, including freight giants, Atlas Air and FedEx. I have no stats on this, but I wonder if airports were under-represented among those recruiting? If I were a young person starting out in aviation, I'd want to give serious consideration to a career in airport management. The flip side of that is that airports might do well to take a good, hard look at the members of WAI. They tend to be real go-getters.

I know at least one attendee who was there primarily to interview those seeking employees. Surely there were many more. WAI's conference has become a great gathering place for career seekers and employee seekers.

The success of WIA is in large part attributable to Dr. Peggy Chabrian. She saw a niche, she filled it, and she led it all the way. The first conference had approximately 155 participants, this year there were some 3,000 or more.

Congrats to Dr. Peggy and WAI. You've come a long way, baby!

### Now, for a total change of subject…

I grew up in Brunswick, Ga. My first memory of aviation in any form was going as a family to McKinnon Airport on St. Simons Island to watch my father board an airliner. (I also remember him telling us that he rode in an airplane that went "300 miles per hour." That was the Lockheed Constellation and we were awestricken at such an idea.)

Though the airlines now operate in/out of a bigger airport, McKinnon is still a vibrant and busy general aviation airport. Gulfstream finishes its famed business jets there, and another company, Stambaugh Aviation, performs maintenance on heavy jets.

But all is not well at McKinnon. Just recently, Stambaugh and others strongly criticized the airport director. On the other hand, Gulfstream and the Georgia DOT strongly praised the director—and the airport—in writing and voice.

The harassed director finally resigned, as did the chairperson of the airport commission. The situation is in a state of flux and it seems safe to say that anger exists on both sides. I, on the other hand, am totally confused.

More on this later. Watch my future Airport Business blogs at: www.aviationpros.com/blogs/ground-clutter/ ab

# Airport Technology Snapshot

## Social Media Boosts Worker Productivity

Mention the words, Facebook, LinkedIn, Twitter and smartphones, and many supervisors will say they question the negative impact these tools have on worker productivity. But a UK study recently found the use of digital devices and social tools actually helps people work smarter and more efficiently. Professor Joe Nandhakumar of the Warwick Business School reports in, "Exploring social network interactions in enterprise systems: the role of virtual co-presence" that using a myriad ways to communicate allows people to be more flexible about when and where they work, and more effective. The paper, authored with Joao Baptista and Niran Subramaniam, also of Warwick Business School, finds flexibility with social media in the office fits well with the demands of the modern world. "The amount of information now at the fingertips of the modern office worker should not mean they are overloaded, but empowered," says Nandhakumar. He suggests managers view digital connectivity as academic institutions do, where it is seen as an essential part of keeping up to speed with new knowledge and developments within the field. The study maintains workers are able to respond to social media communications in their own time, enabling time shifting of tasks by the participants. The report recommends that companies and organizations make sure workers can control the flow of information by turning it on and off when needed.

## AirIT EASE™s Into Branson Airport

AirIT has successfully implemented and integrated its shared use system, EASE™ (Extended Airline System Environment) for Southwest Airlines at the Branson Airport (BKG). The airport now handles its passenger processing demands with AirIT's EASE™ virtualized platform, which allows airlines to extend their applications onto the airport's shared network environment.

AirIT's EASE™ platform can be implemented at any airport, regardless of size, at a cost far below that of traditional common use systems. It is currently operational at 26 airports in North America.

## Digital Signage News

A speed-marquee logo, halo illuminated with white LEDs, and fashioned from both satin and polished stainless steel, with seamless blended edges, now greets those who enter the British Airways Global headquarters at Waterside, near London Heathrow. Signbox Ltd., designers and manufacturers of architectural signage, delivered the new signage and environmental graphics as part of the headquarters' extensive new branding project, which included a complete renovation of the main reception area and a newly designed recruitment center. Signbox worked with RAW Unlimited to develop signage that included internal corporate signage, glazing manifestation, and large format display and environmental graphics.

## Will the FAA Lift the PED Ban?

The FAA announced plans to reconsider its ban on the use of personal electronic devices (PEDs) during taxiing, take-off and landing, with new rules coming into force possibly before years-end. The new rules would apply to a host of digital devices including tablets, notebooks, e-readers and portable media players. However, mobile phones would remain banned during critical phases of a flight. The New York Times recently reported that the industry group set up last year to investigate the use of PEDs on planes during take-off and landing will likely recommend loosening the current rules when it concludes its study at the end of July. While the journey to allow passengers to use PEDS on planes during take-off and landing has been slow, reports suggest that the day may soon come when gadget-loving fliers can use their devices from gate to gate without restriction.

# A Time for Aviation Policy Reform

**For everything there is a season, and in the aviation industry the season for change has arrived. The time is now for aviation industry reforms addressing policy, funding and governance**

By Stephen D. Van Beek

Once again the aviation industry faces disruptions to the National Aviation System (NAS) because of public policy failure. This time it is sequestration, the indiscriminate cuts to discretionary spending that are resulting in furloughs of key federal personnel and contributing to service reductions in air traffic control, security, and customs and border protection services. It is merely the latest unfortunate chapter in a decade-long story of policy instability. What is new, however, is until now there have not been any tangible industry-wide efforts to address the issues generating these crises.

**Stephen D. Van Beek**
*Executive Director*
*Leigh Fisher*

The place to start is to acknowledge that these types of disruptions are embarrassing, destructive and threaten the future of aviation, an industry that is a leading driver of U.S. economic growth, exports and job creation. It was just under two years ago when the July 2011 partial shutdown of the FAA delayed vital services and cost the Airport and Airway Trust Fund (AATF) $400 million. If the current sequestration process remains in effect through April it will:

- Close more than 200 air traffic control towers;
- Reduce air traffic services at the largest gateway airports such as New York and Chicago;
- Cause longer lines for domestic and international travelers; and
- Place a financial burden on the government and private-sector men and women who serve and depend on the industry.

The fallout from sequestration proves our industry has become too susceptible to day-to-day politics. The members of the FAA Management Advisory Council (MAC)—a group appointed by the Secretary of Transportation and representing all segments of aviation—examined these issues over the last two years and concluded that fixing the problem requires the industry to work with the FAA to establish a firm policy, funding and governance foundation. The industry members of the MAC unanimously agree that all entities involved must work together to strike a better balance between our parochial issues and system needs.

MAC finds reforms should accomplish the following goals:

- Update and simplify aviation policies,
- Provide long-term financial stability to the FAA and aviation programs, and
- Reform the governance structure so the FAA can both meet its public goals and deliver its services in a more efficient and effective manner.

## Promote Policy Changes

Aviation policy—not significantly changed for more than 15 years—is dramatically out-of-touch with an industry that just survived its most tumultuous period since its inception. The tumult included the terrorist acts of 9/11, SARS, the financial crash, wildly volatile and increasing fuel prices (now the largest expense category of a low-margin industry), and the resulting cycle of bankruptcies and consolidation.

What has emerged is an industry that has become more global, with three alliances now controlling a dominant share of international and connecting traffic. In the United States, this consolidation comes at a price—its three largest carriers are no longer the leading players in these alliances, and it is the only region of the world that has experienced an absolute reduction of capacity since the new century. The fallout has been considerable for many U.S. airports. The largest airports have seen an 11 percent reduction in seat capacity since 2000, while smaller classes of airports have lost at least 25 percent of their air service on average. While U.S. airlines have followed

the RyanAir model and "unbundled" their tickets in order to increase profitability, that same practice tilts the competitive playing field among airlines with different business models and, by reducing the taxable base of tickets, costs the FAA valuable revenues. And in general aviation, record fuel prices have reduced flight hours and parked planes. Added to this challenging mix are the higher costs and lack of the accountability for security and customs services.

## Focus on Funding

When it takes 23 short-term extensions of FAA authority before H.R. 658 (a four-year *status quo* FAA reauthorization bill) finally passes; when we have continuing resolutions dribbling out FAA appropriations in days, weeks or months; and when Washington's political brinkmanship almost immediately translates into service disruptions throughout the NAS, it is time to acknowledge that a funding problem exists.

> A top industry priority should be to return to a funding system that is stable, reliable and removed as much as possible from politics.

The AATF was designed as a vehicle to provide a long-term and predictable revenue stream to the FAA, enabling capital investments in air traffic control and airports as well as offsetting a portion of FAA operations spending. By providing a source of industry funding through excise taxes and fees, it was a sensible and elegant workaround to the lack of a federal capital budget and the annual appropriations process. The problem today is that the AATF has become a pay-as-you-go account (with less than a month's reserve) that is fully susceptible to the vicissitudes of both the cyclical aviation industry and Washington politics. While taxpayers historically made up the difference between AATF revenues and the proposed FAA budget (normally between 15 to 30 percent of the FAA budget) that too has become unreliable in this age of fiscal constraint.

A top industry priority should be to return to a funding system that is stable, reliable and removed as much as possible from politics. This may even require the industry to wean itself off taxpayer dollars entirely (except for military operations) and support the parts of the system that cannot recover their costs. Such a step requires careful consideration and attention to FAA's spending and methods of revenue collection.

## Guide Governance

The FAA performs many roles, including setting priorities for the NAS, overseeing system safety, investing in infrastructure and delivering services. It is for this reason that the AATF's schedule of taxes and fees were designed—passengers and shippers who use the system's resources should pay at least a portion of the revenues necessary for it to exist and grow.

But today all of the FAA's roles are conflated when it comes to FAA governance. Congress rightly sets public goals for the system, provides resources through the AATF and taxpayer funding, and oversees FAA's execution of laws. However, Congress also gets into more dubious matters such as how services are delivered, even to a level where it decides what air traffic facilities the FAA is permitted to open or close.

That is perhaps the greatest distinction between the FAA and its counterpart agencies around the world; our FAA is not treated as a service provider performing what is essentially a commercial service—the provision of air traffic control—but as a provider of federal jobs and community support. This micromanagement, together with the excessive number of legislative mandates and reports that constrain and distract FAA leadership, needs to be curtailed and accompanied by a process of codification to simplify and streamline its legislative authorities. One way of achieving this goal is to put together a publicly accountable board of directors for the FAA, made up of industry stakeholders, which would oversee federal investments and the strategic direction of FAA's leadership but leave the tactical delivery of services to the FAA.

In the next few weeks, the organization will release four reform principles that will specifically address each of these challenges. While MAC does not expect these ideas will immediately resonate with and convince all parts of the industry, it is hoped the MAC agenda will begin a dialogue that leads to the industry coming together to fix its collective problems. ab

## about the author

**Stephen D. Van Beek**,
*Executive Director of Policy and Strategy, LeighFisher*

With more than 25 years of experience as a senior executive, policy analyst and transportation professional, Stephen D. Van Beek currently serves as executive director of policy and strategy for LeighFisher, a global transportation management consultant focusing on the delivery of financial advisory, planning and operations solutions. Van Beek advises airport and transport clients and coordinates policy and business strategy across the consulting firm's lines of business. Current projects include strategic planning and policy analysis, multi-modal planning, transportation funding, and finance, as well as federal laws/regulations/policy.

# The Perpetual "First Impression"

## First impressions count! The benefits of keeping customer service top of mind at the flightline

By Walter Chartrand

After a safe landing following a pleasant flight on a beautiful morning, an aircraft taxis into an FBO. But there is no one there. There is no one to marshal in the arriving aircraft, and with few other aircraft parked on the ramp, the flight crew is left to decide where to park on their own.

Suddenly a facility door flies open, and an individual struggling to don a safety vest hurriedly grabs a set of chocks and drags a red floor mat out to meet the "self parking" aircraft. As the cabin door opens and the "out-of-breath" line service technician fights to properly the place the floor mat, the crew and passengers begin to emerge. Suddenly another line service technician pulls up on a tug pulling an LAV cart and yells: "Hey, they need anything?"

Unfortunately, this is an all too common scenario. Even if this were a long-standing, well-established customer, every time line ops meet the customer, it is a "first impression" for that exchange. But let's back up a little and see how we could improve this situation.

Donning the right safety gear provides an at-a-glance view of an FBO's level of professionalism.

### Communicate & Plan

In the above example, the scheduler and dispatcher for the flight department had called in two weeks prior informing the FBO of the requirements for the passengers, aircraft and flight crew.

That information should have been documented and shared in a "shift briefing." FBO personnel should have followed the incoming aircraft's flight; that aircraft was most certainly on some type of electronic tracking system, possibly for hours! The aircraft likely called in and reported "20 minutes" out and probably had a scanner tuned to ground control where the pilot would have been heard to say: "This is aircraft N123, we would like to taxi to XYZ FBO." So why was it a surprise then when the customer showed up?

As the above example illustrates, it is critically important to plan flightline work as best as possible and communicate that plan to everyone concerned.

"Is it possible to over communicate?

Consider this: "Would you rather be told about customer requirements

three times, or not at all?" The more that is known about a customer's basic needs, wants and preferences, the better you can be of service.

## Maintain a Servant's Heart

It was once just a requirement for anyone working the flightline to be safe and know the basics of proper ramp operations. That too is different today. With reduced staff and increased profitability demands, it is critically important that individuals charged with meeting the aircraft converse with passengers and coordinate with flight crews and fellow team members. These individuals must be ready, willing and able to be of service to others.

It is not about being anyone's servant, however. It is about being a professional and assisting those without your expertise to help them navigate your employer's operation with safety and ease.

FBOs should want their customer's experience to be pleasant and maybe even memorable. No one will describe their experience as, "WOW, you will never believe the great fuel we received today!", but they might say, "You will never believe the wonderful service we received today at XYZ FBO. We saw five FBOs over the course of three days of travel, and what a different experience we had at XYZ FBO."

## Check Your Appearance and Your Attitude

A study by New York University researchers revealed we make 11 major decisions about one another in the first 7 seconds of our first interaction. This research shows that in business interactions, first impressions are absolutely crucial.

On the flightline, appearance can offer an at-a-glance view of the level of professionalism and the anticipated level of service that can be expected. As one taxis onto an FBO ramp, if the facility is in disarray, the employees look like they have been rolling around under a greasy fuel truck, equipment is dirty and in poor condition, and no one looks very happy to be there, that first impression is not a positive one. Once inside, if customers see that the person behind the front counter never picks up his/her head to make eye contact and greet them, they may feel their presence is an imposition.

SMILE! Let customers at least think that you are happy to see them and happy to be of service. Welcome the customers, ask them their names, share your name, and begin a relationship!

## Be Professional

Line service technicians often lament, "Those pilots … they never pay attention to my hand signals!" But when they are observed marshaling, it looks like they are swatting flies or fanning themselves. No wonder pilots fail to follow their hand signals, they are either uninterruptible or indistinguishable!

> First impressions count. We make 11 major decisions about one another in the first 7 seconds of our first interaction.
>
> –NYU

Customers can quickly determine an FBO's level of professionalism by what line service technicians are doing and how they are doing it. Sometimes simple things like just wearing PPE (Personal Protective Equipment), speaks volumes. If employees show they care about their own safety, it gives the impression that they are also safe with aircraft.

Using proper equipment like wands or flags to marshal, direct and park aircraft, including both day wands and lighted wands at night, adds another level of professionalism. Driving equipment safely and professionally on the ramp, especially around aircraft, speaks volumes about an FBO's professionalism.

Each interaction with a customer provides an opportunity to make a positive and memorable first impression. If all tasks are performed proficiently and professionally, FBOs will find customers returning not just for fuel, but for the service they provide. ab

**Greet customers like you're happy to see them.**

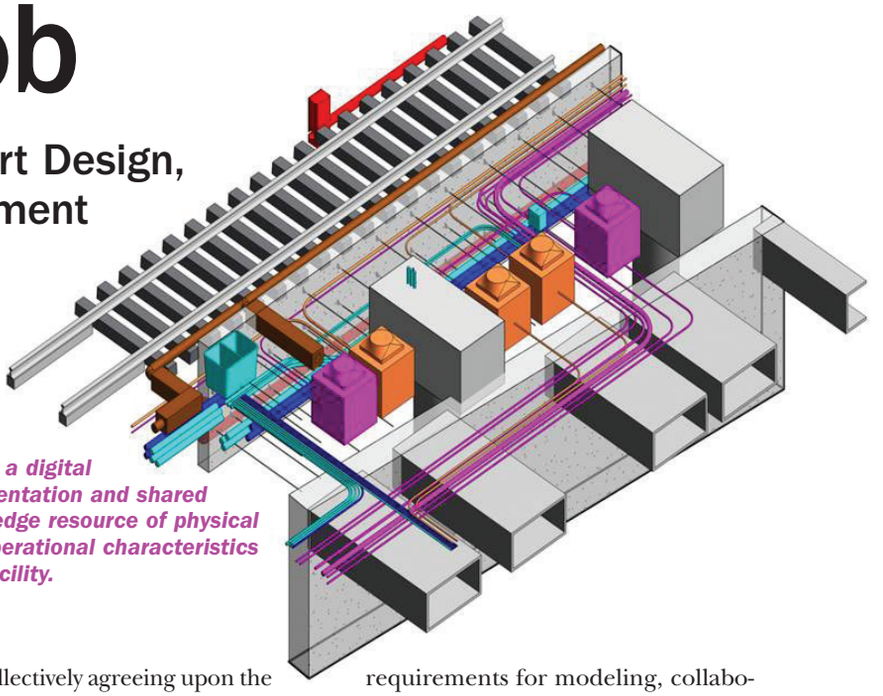
## about the author

**Walter Chartrand,**
**Training Instructor**
Walter Chartrand is a training instructor with Aviation Training Academy, a firm dedicated to the training and continued education of professional aviation ground support personnel. More information on the training offered by Aviation Training Academy can be found at: www.aviationta.aero.

# Choose the Right Tool for the Job

## BIM Applications for Airport Design, Construction and Management

By Virginia McAllister



*BIM is a digital representation and shared knowledge resource of physical and operational characteristics of a facility.*

Use the right tool for the job. This common sense advice can be applied to the use of BIM (Building Information Modeling) technologies as a tool for airport design, construction and management.

BIM is a digital representation and shared knowledge resource of physical and operational characteristics of a facility. As a three-dimensional tool with an embedded database of facility data, it can serve as a reliable basis for decisions from earliest design conception through the facility's entire life cycle.

Its technological capabilities are well-founded, tested and grounded. However, because it is such a powerful tool, there is a learning curve to be able to apply it to its fullest capacity. The first step in successfully integrating BIM into an airport is education. All parties must have a true understanding of what is achievable, practical and cost-effective when using BIM.

It is also important to work with clients to discuss and understand both their needs and their desires. The BIM toolbox offers many options, and it is essential to match these options with the needs of all stakeholders — from the owner who may wish to simulate appearance, performance and cost to aid in the design decision and approval process, to the facility managers who will monitor and maintain the systems on a daily basis during the life of the project. Surveying the team's stakeholders at the inception of the project and collectively agreeing upon the desired uses will ensure that the selection of tools is appropriate.

### Holistic Team Approach

The planning and design phases of a project are generally the easiest phases for airports to integrate BIM. BIM adds value by creating design documents that are more efficiently coordinated.

Where many systems cross vertically and horizontally in airports, spatial coordination of building systems during design can virtually eliminate problems previously encountered during construction. One study shows 18 percent of construction costs typically come from change orders. When the design team implements BIM strategies, that ratio drops to 12 percent. When the entire project team embraces BIM, change order costs drop to 3 percent. But to gain the true value of the tool, all team members need to work toward an agreed outcome.

This is where an execution plan comes in. It is one of the most important components in establishing a structured approach to BIM. This document should identify BIM uses, project goals, procedures, and requirements for modeling, collaboration and communication. The execution plan assigns responsibility for systems, categories and subcategories of elements to team members and lays out the Level of Development (LOD) and spatial coordination requirements for those systems at various points in the design and construction process. It defines deliverables and quality control requirements at each phase. In addition, the execution plan should define the technology infrastructure–software, equipment and hardware, and the approach to update that technology in order to maintain continuity during the process.

To ensure uniformity and consistency, the execution plan sets forth the directives, how they will be monitored, and audits at scheduled intervals. It is important, as an airport, to acknowledge that such monitoring is a necessary and independent ancillary task to the overall scope of work for design and construction efforts.

BIM can be used to eliminate the loss of information as a project transitions from the design team to the contractor and finally to the owner. It is essential to establish contracts for all

parties that are consistent and referential in order to ensure that each project team is enhancing or referencing information that they have acquired during their particular phase of the project. The owner's contract for each party should anticipate and acknowledge data transfer between phases and the reciprocal obligations of each party to participate in BIM.

Team members must be equally conversant and proficient in the use of the BIM tools. This is as true for the consultants who may be retained by the airport as it is in-house airport personnel who are assigned as part of the delivery team. Airport management needs to consider both their own technology infrastructure and in-house skill sets, if they decide to undertake a project in BIM and subsequently use it as a facilities management tool or for maintenance of existing condition documentation. Airport leadership must be invested in progressing their projects into the next generation through conscious contracting, open communications with the their team of consultants, contractors and facility managers.

## Facilities Management

BIM can also help manage a facility during its entire life cycle. As a combined three-dimensional model and expandable database, there is very little information that cannot be added to a BIM model. If clients begin with that end in mind, the model progresses very specifically at each phase of the project.

This tool can be used to detail how the owner/operator, airlines and other tenants will occupy and use spaces — a real value to those who manage the commercial real estate aspects of an airport. If product and asset information is incorporated into the model, airport facilities personnel can develop programs for preventative maintenance that use personnel more efficiently and prevent any interruptions to service that might occur due to equipment failure or malfunction– something that is critical in a 24/7 operational environment.

The air-handling units for a mechanical system may only require limited information for plan coordination early in conceptual design for rough space planning. During construction document preparation, those units can be modeled to include capacity data, connections, maintenance access and even manufacturer selection and associated specification links.

When the model will be used for facilities management, those same units can have information for installed make, model and serial number, O&M manuals and other information necessary for regular preventative maintenance.

BIM can also assist the owner/operator in reducing specific operating costs and to complete cost/benefit analyses to evaluate investment in improvements or new systems. To this extent, those who will eventually maintain the airport and its assets necessarily become collaborative team members with important input into the overall scope of the application of this technology and the use of BIM tools during design and construction. This is another valid reason for beginning with the end in mind.

The integration of new design technologies influences the successful outcome of any airport project. If the hurdles of understanding how to use the tool effectively can be overcome, the value can be maximized through education, clear goals, defined uses and skilled, collaborative use. As a tool, it is not an end unto itself; rather it is a means to an end and it can certainly be the "right tool for the job." ab

## about the author

**Virginia McAllister RA, NCIDQ, LEED AP, NCARB**

As the principal/owner of Iron Horse Architects, McAllister's 25 years of diverse experience in development, design and construction have given her a breadth of experience in the practice of architecture for aviation and transportation facilities.


# ACI Builds a Bright Future

## The how and the why behind this FBO's accelerated growth path on California's Central Coast

**By Steven Ells**

Aviation Consultants Incorporated (ACI) set up shop at McChesney Field (KSBP) in San Luis Obispo in 2003 when it purchased a fuel vendor on the field. In the decade since that auspicious beginning this company, led by owner William Borgsmiller, has grown and expanded in impressive fashion.

ACI has morphed from simply a fuel provider into a company with more than 70 employees built around three divisions.

In short order, ACI expanded out of a line shack for the fuel crew into a nearby 10,000 square-foot hangar, built a charter base, dispatch center and pilot lounge building adjacent to that hangar, and in the fall of 2010 finished constructing a 35,000 square-foot maintenance hangar located at the southeast end of the airport.

### A Single-Minded Pursuit

Borgsmiller, 36, says he became "the black sheep" of his family of medical practitioners by announcing at age 4 that he was going to be a pilot. By his 18th birthday, he had all the ratings needed to fly charters, and while flying and working he obtained his college degree in 2 1/2 years.

After graduating from Embry-Riddle in Prescott, Ariz., Borgsmiller flew charters in Redding before relocating to San Luis Obispo (KSBP).

ACI first focused on aircraft management services. Andrew Robillard, ACI vice president of FBOs and Facilities, notes the Central Coast location was wide open for large-scale development of turbine aircraft management and charter services. "The area has a lot to offer," he says.

The term "Central Coast" refers to lands located between Salinas and Monterey to the north and Santa Barbara to the south. Its large investments in vineyards and wineries, and

plethora of beach towns and artist colonies make it an attractive place to visit.

## The Three Arms of ACI

While still in Redding, Borgsmiller knew he wanted to start a business and that he wanted to fly people around in airplanes. After a year he moved to San Luis Obispo to implement this plan. He set his plan in motion by acquiring one of the fuel vendors on the airport.

Borgsmiller admits his partners helped him get started, and that partners are still part of ACI.

The first leg of ACI's success was built on aircraft management services.

The ACI aircraft management team sits down with each customer and if requested, can tailor each management package to the customer's needs.

As the management roster grew it was a natural progression to begin offering the owners of managed airplanes the option of contracting with ACI to provide the services and oversight needed to safely charter their aircraft.

> "ACI has morphed from a fuel provider into a company with more than 70 employees built around three divisions."

According to Robillard, "What sets us apart from other companies is our boutique attitude toward our customers." The ACI charter team makes it a point to know what each customer wants to eat and drink, what they want to drive, where they want to stay and even, what kind of doggy treats Rover likes. Then they go to uncommon lengths to make sure the customer gets what they like.


*Bill Borgsmiller (left) and Andrew Robillard (right) in front of ACI's Jet Solutions hangar.*

Today, the ACI charter fleet includes a King Air 350, a suite of five Citation Excels and Citation XLSs, a Citation X and a Gulfstream IVSP.

Robillard says one reason for the success of charter ops at ACI is the location of the fleet — midway between large markets in both the San Francisco and Los Angeles population centers. Positioning hops to either of these markets are short; this combined with lower overhead costs and the diversified fleet provides the ACI advantage. In addition, the Central Coast is drawing businesses that depend on charter flights to streamline their business and personal travel needs. In addition to its San Luis Obispo facility, ACI also provides and maintains the self serve-fuel area at the beach-side Oceano airport (L57) and maintains a Jet Center in Paso Robles, another Central Coast destination. Although the Paso Robles airport is only 27 miles north of KSBP, the two airports are on opposite sides of a modest range of hills. KSBP, being only a few miles from the Pacific Ocean is more temperate — summertime temperatures rarely top 80 degrees Fahrenheit and winters are mild — but is often covered with marine fog in summer months; KPRB is shielded from summer fogs but is home to temperatures of more than 100 degrees F in the summer and often goes IFR due to morning fog and temperatures near or at freezing during the winter.

An ACI brochure acknowledges this WX switcheroo by providing a "good weather guarantee," and promising to transfer services to either airport when weather concerns dictate a change of plan.

## ACI's Big New Maintenance Base

ACI is pushing the fact that both the KSBP and the KPRB airports need to be considered when launching for flights to Hawaii and other Pacific Rim destinations. Each airport has a 6,000-foot runway, and ACI provides full services including 400Hz/28 VDC power, air-conditioning, detailing,

de-ice, hangars, and fueling services at both airports.

The third leg of Borgsmiller's one-stop for turbine aircraft business plan — after FBO services, aircraft management and charter services — took form in late 2010 with the completion of home of ACI Jet Solutions, a 35,000 square-foot maintenance service hangar.

*ACI's Mobile MX truck.*

The ACI Jet Solutions hangar is geared up and ready to go. How ready? Ready to install a high quality interior such as the one recently completed on a Citation X; ready to perform major engine work and engine changes, and ready to provide a degree of sheet metal fabrication and repair. And it's always ready for normal line servicing such as washing, tire and battery servicing, and detailing services including Trip Ready servicing during quick-turn operations.

One service that sets the ACI detail team apart from others is the ability and training to provide leather and bright work restoration services for interiors. One of only two Townsend Leather Service Centers on the West Coast, ACI detail specialists are certified by The Leather Institute.

The Jet Solutions plan also includes a mobile maintenance truck that is ready to go, "as far as they want us to go," says Robillard.

Borgsmiller's original vision of, "flying people around in airplanes," has grown in a direction he didn't foresee just a few years ago. Today that vision has morphed into the newest full-service jet service center on California's Central Coast. ab

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*owner, Ells Aviation*

Steven Ells, owner of Ells Aviation, is an aviation writer and accomplished aviation photographer. Ells aviation maintenance career has spanned more than 40 years. He may be reached at steve@ellsaviation.com.

# Knowing Whether to Proceed Under Part 13 or Part 16

## Part Six of a six-part series on airport tenant relations and aviation legal matters

By Paul A. Lange and Megan E. Bryson

In the first three articles in this series, we discussed some of the more common grant assurances that are disputed between airport sponsors and tenants. Our fourth and fifth articles focused on preserving your own documents and evidence, as well as seeking out evidence from your adversaries. But there's more. The next consideration is how best to employ your resources and evidence to answer the question: Do you proceed under 14 Code of Federal Regulations (C.F.R.) Part 13 ("Part 13") or under 14 C.F.R. Part 16 ("Part 16")?

## Define the Differences

As a general matter, the primary distinctions between actions under Parts 13 and 16 are rooted in issues of formality, legal standing to bring a cause of action, and the potential for and type of recovery available to a complainant.

## Part 13: The Less Formal Option

Part 13 is the less-formal option for filing a complaint with the FAA and, as a general matter, the only avenue available to those complainants who cannot satisfy the standing requirements for Part 16 (discussed below). Complaints may be made in writing, or even orally, pursuant to Subsection 13.1, to any FAA regional and/or district office. Typically, all such complaints are relayed to FAA regional staff for relatively informal investigation, as warranted.

This informal investigation will usually entail correspondence from the FAA investigator or specialist to the airport sponsor wherein a copy of the complaint is forwarded to the airport sponsor for review and response. Thereafter, the FAA personnel handling the dispute will review the responses from the airport sponsor and determine:

- **Whether the dispute is within the jurisdiction of the FAA, and**
- **Whether the allegations in the complaint are supported by sufficient evidence to support further investigation.**

If the FAA determines that neither of these conditions are satisfied with respect to any of the individual allegations in the complaint, those allegations will be dismissed without further action. The remaining allegations, if any, will continue to be investigated.

Following any additional investigation, the handling FAA regional office will issue an informal determination setting forth the region's position on the allegations in the complaint. Of particular note, there is no deadline imposed under Part 13 for the issuance of an informal determination by the FAA.

Subsection 13.5 of Part 13 does contemplate the filing of formal complaints seeking "an appropriate order or other enforcement action" with the Office of the Chief Counsel, Enforcement Docket in Washington, D.C. In the event, however, that the complaint does not observe the formalities required under Subsection 13.5, the FAA will simply treat it as an informal report pursuant to Subsection 13.1. If the complaint does satisfy the formal requirements, the complaint will be docketed and mailed to the party against whom the complaint is levied. Thereafter, the respondent is afforded 20 days from receipt of the complaint to answer. Following receipt of respondent's answer, the administrator determines whether there are reasonable grounds for investigating. If no such reasonable grounds exist, the administrator may simply dismiss the complaint without a hearing or further investigation.

> "... the primary distinctions between actions under Parts 13 and 16 are rooted in issues of formality, legal standing to bring a cause of action, and the potential for and type of recovery available to a complainant."

However, if the administrator determines that reasonable grounds exist for further investigation, the matter may be pursued informally or a more formal order of investigation may be issued. Thereafter, if the additional investigation substantiates the allegations in the complaint, the administrator may issue a notice of proposed order or other enforcement action as appropriate.

While Part 13 does contemplate the potential for formal investigations, practical experience demonstrates a trend toward the less formal handling of such matters. To this end, the recommended approach in Part 13 matters is to submit a written Part 13 complaint with copies of any and all supporting documentation. Upon receipt of the complaint, the FAA will assign the matter internally for investigation.

## Part 16 – The More Formal Option

Part 16 affords the more formal avenue for pursuing claims against an airport sponsor, with a system more akin to litigation in a traditional court setting. There are set guidelines and deadlines for pleading (up to and including certifications of pleadings and very stringent filing requirements), discovery guidelines to obtain evidence, and the opportunity in some instances for a trial-like hearing.

The formal requirements for an initial complaint are set forth at Subsection 16.23. It is imperative that a complainant carefully follow the rules, as failure to observe the formalities and requirements set forth therein may, and likely will, result in administrative dismissal.

Of particular note, there are two primary requirements for standing, or the legal ability to initiate and pursue, a Part 16 action:

- **You (as an individual or an entity) must have been or must currently be "directly and substantially affected" by the alleged noncompliance of the airport sponsor as to the grant assurances; and**
- **You (as an individual or an entity) must, prior to filing a Part 16**

## PART 13 VS. PART 16

### PART 13

- ✔ Informal complaint
- ✔ Accepted verbally or in writing
- ✔ Investigated by FAA regional staff
- ✔ Imposes no time deadlines for issuing decisions

### PART 16

- ✔ Formal complaint
- ✔ Accepted in writing
- ✔ Parties must be substantially affected by the alleged noncompliance
- ✔ FAA headquarters investigates these complaints
- ✔ Imposes strict deadlines for filing, adjudication and appeal

**complaint, initiate and engage, in good faith, efforts to resolve your issues with the airport sponsor informally. Any Part 16 complaint must include a certification that "substantial and reasonable good faith efforts to resolve the disputed matter informally prior to filing the complaint have been made and that there appears no reasonable prospect for timely resolution of the dispute."**

With regard to the first requirement, any person or entity doing business with an airport and paying fees and/or rentals to the airport is generally considered directly and substantially affected by the airport sponsor's conduct. This includes circumstances of revenue diversion where airport revenue, in contravention of 49 U.S.C. 47107(b), is used for purposes *other* than for the capital and/or operating costs of the airport, the local airport system, or other local facilities owned or operated by the airport owner or operator, and directly and substantially related to the air transportation of passengers or property.

Further, and as more fully described in the first three articles in this series, tenants of federally funded airports, and in particular Fixed Base Operators (FBOs), are afforded an even greater range of issues upon which to claim standing to pursue a Part 16 action against an airport sponsor (e.g., inequitable application of the minimum standards to airport tenants; improper dictation of FBO rate structures; and the exercise of an impermissible exclusive right, just to name a few).

We next turn to the second requirement, namely a certification of pre-action efforts at resolution. This requirement may be satisfied by well documented informal settlement efforts between and among the parties directly, or through more formal attempts at mediation, arbitration, use of a dispute resolution board, or some other form of third-party intervention. Regardless of the type of settlement effort(s) attempted, those efforts are all at the parties' own expense. It bears noting that in accordance with Subsection 16.22, the FAA airport district office, FAA airports field office, or FAA regional airports division responsible for administering federal financial assistance to the airport sponsor is available upon request to assist with efforts at pre-action informal resolution.

## Choose Carefully

The primary consideration when electing between pursuing an action under Parts 13 and 16 is whether you have standing to pursue a Part 16 action. In short, are you legally eligible to file a Part 16 action? As an existing airport tenant, the answer is likely: "Yes." You're then in the fortunate position of having a choice between the nuances of the Part 13 and Part 16 processes.

As an airport user, the question becomes a bit more complicated. As a prospective airport tenant and/or user, the question becomes riddled with legal pitfalls. If you believe you may have a cause of action against an airport sponsor, your best course is to contact counsel familiar with the FAA airport dispute resolution process as early as possible to determine your best avenue for recourse and to identify the steps you'll need to take in order to resolve the dispute quickly. ab


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Paul A Lange founded and leads the law offices of Paul A. Lange LLC with offices in Conn. and N.Y. The firm practices nationwide and internationally in various aviation-related legal matters, including airport development, financing, regulatory enforcement matters, and disputes.

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Megan Bryson is an attorney at the firm whose practice includes airport matters. www.lopal.com

# Know Your Virtual Vulnerabilities

## Protecting cyber infrastructure may sound Greek if you're not a cyber geek. Here are 7 simple steps to better cyber protection

By Dominic Nessi

It's a sure bet that Michelle Obama and Mel Gibson never expected to see their credit reports posted on a Russian website. And it's unlikely the Chinese government believed itself vulnerable to systematic cyber-espionage. But Obama and Gibson's credit reports did show up online and the Chinese government was indeed a victim of cyber espionage. It appears no one is truly safe from cyber attack.

While the attacks were not aimed at U.S. critical infrastructure—water, power, communications and transportation systems, it is likely that hackers routinely probe these systems for weaknesses and vulnerabilities.

There are also a growing number of overseas examples where critical infrastructure has been targeted to underscore that this possibility exists. In 2012, an attack against Saudi Arabia's state-owned oil company, Saudi Aramco, destroyed more than 30,000 computers. Though the hackers attacked Saudi Arabian infrastructure, their message toward the United States was abundantly clear—as each computer was infected a burning American flag illuminated the screen. And, Stuxnet, a computer worm discovered in June 2010, attacked Iran's nuclear facilities by targeting their Siemen software and equipment through Microsoft Windows. While it is not the first time hackers have targeted industrial systems, Stuxnet is the first worm built to spy on industrial systems as well as reprogram them.

In the air transport industry (ATI), cyber-attacks in India and South Korea and, closer to home, in Florida, show ATI is not immune to cyber threats.

But before airports can become more secure, airport directors need to identify where vulnerabilities lie. The following list is designed to help airport management pinpoint potential trouble spots. This is not an exhaustive list—cyber threats change rapidly, almost daily it seems. Airport administrators will need to review this list annually to add and remove focus areas as necessary.

### Protect the "Front Door"

An airport's communications network is the "front door" to the confidential privacy and financial information it maintains. Your email, stored

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**Dominic Nessi,**
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Dominic Nessi is a certified information systems security professional (CISSP) from ISC(2) and serves on the organization's North American Advisory Board. He is also the deputy director/chief information officer at Los Angeles World Airports found at www.LAWA.aero. He may be reached at dnessi@lawa.org.

documents, badge information, financial transactions, personnel records all traverse a communications link that you, as an airport manager, probably consider incomprehensible. While you may never understand it from a technical perspective, you can and should ask your IT team the following questions (and expect answers in non-technical language):

- **Do we have layered security?** This is fundamental. Network security is not just about running anti-virus software on every PC. It's all-inclusive. This means that from your desktop to the Internet, you have protection. A good follow-up question is whether or not your IT team has had an external entity perform "penetration testing."

> "In the air transport industry (ATI), cyber-attacks in India and South Korea and, closer to home, in Florida, show ATI is not immune to cyber threats."

- **Have we invested in unified threat management devices (UTMs)?** UTMs are an integral part of a layered security solution and include firewalls, content filtering, VPN (virtual private networks), and intrusion detection technologies.
- **Have we secured all of our network "endpoints"?** An endpoint is anything that can attach to your network, whether it's a server or a USB drive. Pay particular attention to those small portable devices; like USB drives that are distributed by the hundreds at every airport convention. They can be carriers of threats when improperly handled.
- **Have we properly "patched" our network?** There are a number of routine network "housekeeping" tasks that should be part of your everyday security routine. Keeping all of your software updated is one. This not only includes Windows updates and patches for servers and clients, but applications and firmware upgrades on routers and switches. Many of these updates contain security fixes and patches.

## Secure Your Transactions

Closely linked to your network is the security of credit card information. It requires special consideration as a breach in this area could cost an airport millions of dollars. There are three critical questions the airport director should ask its IT team:

- Are we storing credit card information in any airport systems?
- Does any credit card information go through our network?
- If the answer to either question is "Yes," then ask: Are we PCI compliant? The Payment Card Industry Data Security Standard (PCI-DSS) is a set of requirements designed to protect and secure credit cardholder data. It was developed by a consortium of financial institutions, including American Express, Discover Financial Services, JCB International, MasterCard and Visa. The objective of PCI-DSS is to establish a global standard for data security on credit card transactions. It includes standards for security management, policies, procedures, network architecture, software design, and other protective measures. An excellent and easy to use guide, (ACRP Research Digest 11), was developed by Barich Inc. and commissioned by the Transportation Research Board (TRB). It can be found online at: www.nap.edu/catalog.php?record_id=14436

## Cover Your Communications

Has the IT team reviewed every aspect of the airport's communications services from a cyber-security aspect? Everything from free passenger WiFi to network services provided to airline maintenance shops carries potential risk. A growing number of hot-spot users are suing service providers after being hacked. And, with the increasing presence of e-enabled aircraft, airlines must be assured these networks are well-protected.

## Defend Your Databases

Every airport maintains a variety of enterprise databases storing personal information, including that of airport employees and airport community badge data. Ask the IT team if they have implemented additional security measures for those specific applications. Of particular concern would be any employee medical records that fall under the purview of the Health Insurance Portability

and Accountability Act of 1996 (better known as HIPAA). The U.S. Department of Health and Human Services Office for Civil Rights (OCR) may impose a penalty for failing to comply with privacy rules.

## Safeguard Your Control Systems

Control systems are increasingly being targeted in cyber-attacks. Airports have a large number of control systems from building management systems to utility systems to baggage systems. Ask the IT team if they have conducted an in-depth analysis on the security of the facility's control systems. You may wish to ask if the cyber-security of airport control systems is even managed by the IT team; historically, these systems have been operated by non-IT staff. As control systems became more sophisticated Internet connections were added to provide off-site monitoring. In many cases, this change went unnoticed and personnel without an IT background suddenly found themselves in charge of IT networks.

## Manage Your Mobile Security

The growing popularity of mobile devices presents a new challenge in cyber-security. Smartphones, lightweight laptops and tablets are proliferating in large numbers and in a seemingly endless variety. Ask the IT team the following:

- Do we allow employees to use their own device (called BYOD), and what are our policies for ensuring that sensitive or confidential data is not leaked through loss of such devices?
- Have we established standards on what mobile devices may be allowed into our environment and were those standards based on cyber-security principles?
- What safeguards have we implemented to ensure mobile devices will not be access points for malware to enter the airport network?

## Engage Your Employees

Your employees are your weakest link. No matter how effectively you secure your network, airport administrators still have to contend with end-users, who are often responsible for the biggest security breaches. Many employees simply lack knowledge about good security practices.

Airports need to develop an internal cyber-security policy and then educate end-users about this policy. Give special attention to users who work from home or on the road. Ask the personnel department, legal counsel and IT team if the airport has established needed policies to keep its IT assets safe. Everything from PC usage policies to standards of conduct must be adapted to the modern IT environment. The following are critical areas for review:

- **Perform employee background checks.** Many businesses are robbed by their own employees underscoring the importance of hiring the right people from the get-go. A background check is not perfect, but it will eliminate candidates who have had problems in previous positions.
- **Institute use policies.** Be sure there are policies in place to help employees practice online safety and network security. A simple but effective password policy is critical. Do you have one? At times, identity theft or fraud can be unknowingly committed by an employee. Make sure employees follow policies and protect themselves and the company from virtual intruders.
- **Separate duties for employees engaged in the airport's financial systems.** A single employee should not have full authority over financial transactions. Assign several people to handle different aspects of each financial process. For example, one person might initiate purchase orders, another might handle the accounting for incoming purchases, and a third might prepare checks for payment.

> "Exercising the practical safeguards listed in this article can be the difference between staying cyber-safe and becoming tomorrow's headline news."

Exercising the practical safeguards listed in this article can be the difference between staying cyber-safe and becoming tomorrow's headline news. ab

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