

## Airport's Wireless Access Control Retrofit Cuts Cost of TSA Security Mandate

Valdosta, Ga. installs one of the nation's most cutting-edge airport security combinations of access control, wireless tech. & CCTV.

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**Valdosta, Ga.**—When a recent Transportation Security Administration (TSA) mandate introduced new requirements for activity monitoring and identifying General Aviation (GA) personnel with unescorted airport access, Valdosta Regional Airport (VLD) found itself in an underfunded race against time to retrofit its access control/security system.

Like most Class-3 airports, VLD was not only underfunded, but its GA clientele was infuriated at TSA's December 2008 mandate, Security Directive (SD) 1542-08G, which is directed mainly toward GA areas at commercial service airports. After eight years of successful post-9/11 security measures for commercial aviation, the TSA is now tightening security in other airport areas such as GA with mandatory background checks and ID media issuances to all pilot and personnel with unescorted access to airport operations areas. The 62-year-old, Valdosta, Ga.-based facility, which is owned by the Valdosta-Lowndes County Airport Authority, averages three daily flight operations by commercial carrier Atlantic Southeast Airlines (ASA) and more than 30,000 GA operations annually.

After the mandate's enactment Patti Clark, Ph.D., executive director and airport manager—VLD, spent several months searching for affordable new access control and ID equipment while simultaneously holding town hall meetings for her angered GA community. "Our meetings were intense," noted Clark, "they made the national healthcare town halls in the summer of 2009 look like birthday parties. Our GA clientele tended to direct their anger at the messenger instead of the message, and many threatened to take their business to other airports. The threats of these actions were a grave concern to me."

While the challenge seemed insurmountable at the onset for the 800-acre airport, creative ideas from an access control/security provider combined with cutting-edge wireless technology helped make the security retrofit affordable and fast-track the installation in an effort to avoid TSA fines.

Matrix Systems, a Dayton, Ohio-based turnkey access control and security solutions provider and the winning project bid among 14 companies, suggested wireless technology to help connect the geographically separated GA airport operations with VLD's main terminal more than 1,000 yards away. Implementing Matrix Systems' wireless network solution saved VLD tens of thousands of dollars.

The wireless mesh technology solution also fast-tracked the project and facilitated coordination with TSA to avoid non-compliance actions. The Matrix Systems installation team set up a ClearSite Communications, Sarasota, Fla., VR42 Series wireless system--consisting of five antennae, seven IP controllers and one base antennae--in just one day, versus the several months required in trenching and hard-wiring a perimeter system on such a sprawling property.

Other than cost and ease of installation, there are additional benefits to the wireless mesh system that made it a perfect solution for the TSA mandates. It operates on a closed security platform, was developed exclusively for security applications, complies with Advanced Encryption Standard (AES), and uses dedicated custom-configured serial interface connections to prohibit potential external breaches.

Clark, who has 30 years of aviation management experience ranging from operations, maintenance, and logistics to environmental protection, initially had reservations about the compatibility of wireless technology operating within an airport operation based on several bidding vendors' warnings against using wireless. Interference has not been an issue however, because VLD's wireless mesh system uses a frequency spectrum that's far different than those frequencies used by weather, runway landing instrumentation and other common airport technologies. "Matrix Systems had more detailed proposals and laymen technology explanations that spelled out everything more than many other vendor candidates," noted Clark, who is an adjunct professor with both Embry-Riddle Aeronautical University, Daytona Beach, Fla., and Webster University, Webster Groves, Mo. "They had a lot of previous airport experience and came highly recommended by my peers at Columbus Metropolitan Airport, Columbus, Ga., and Jacksonville International Airport, Jacksonville, Fla."

Wireless also provided a cost-effective transmission solution to the project's Bosch Security Systems—North America, Fairport, N.Y., 12 CCTV and digital video recording (DVR) equipment. CCTV typically requires a bandwidth in excess of what Cat-5 Ethernet networks offer. Therefore the mesh wireless system's capability of transmitting broadband CCTV data circumvented the need of hard-wiring costs associated with providing additional bandwidth capacity.

Matrix Systems' solution consisting of a building controller, seven Matrix System Gateways (MSG), 12 reader control modules (RCM), and 12 proximity/PIN code/LCD readout card readers required little additional wiring, because installers used VLD's existing Cat-5 Ethernet cable when available. Matrix Systems' hardware and software is a completely scalable, open-architecture access control/security system that will help VLD maintain a state-of-the-art operation well into the 21<sup>st</sup> Century, according to Clark.



Additional savings came from Matrix Systems' strategy to combine the server, security workstation and badge production into one unified source. For example, embedded into Matrix System's Frontier™ access control software, is Frontier Imaging, which is compatible with the DCP-360i badge printer by Digital Identification Solutions, LLC (DIS-USA), Greenville, S.C., and avoids the expense of interfacing additional software.

This integration feature also helped fast-track the project because Tina Castleberry, VLD's operations coordinator and security workstation operator, was able to comply with TSA guidelines by producing over 400 ID badges in four days during the second week of the project even though the entire access control installation wasn't completed until three weeks later.

Despite the significant savings and the shortened timeline due to the innovative wireless solution, when it came to funding the security retrofit, Clark used some creativity. VLD had already appropriated \$60,000 to routinely improve security before SD 1542-08G was enacted. When it was evident more was needed, Clark requested local authorities to allocate funds for the shortfall from a Special Purpose Local Options Sales Tax (SPLOST) for the remainder of the retrofit costs.

Even though VLD needed to come up with smart solutions to help fund the SD 1542-08G initiative, another project benefit was providing Clark an opportunity to retire its outdated PIN door locks in turn for what ClearSite Communications President, Knight Hamalian calls "one of the most cutting-edge airport security combinations of wireless, state-of-the-art access control equipment and CCTV in the nation."

The prior access control system of PIN code doors admittedly was not as secure as today's system because Clark suspects some authorized users most likely shared PIN codes with unauthorized personnel not maliciously, but out of convenience. "Once you hand out a key (which can be duplicated) or a PIN code, you lose control," explained Clark. "Now we can account for everyone and their activities because they must use ID badges that we monitor and record through the Frontier software."

Other past costs associated with the old system, such as contractors working in secure areas, are no longer applicable. Contracting work was always escorted and personally monitored throughout the work's completion by one of Clark's limited staff of four people. Now contractors are unescorted because they're vetted through TSA and issued temporary badges which are monitored through the Frontier software by Castleberry.

While the SD 1542-08G mandate was initially very unpopular among VLD's GA customers, there have been no complaints. Rather there has been plenty of appreciation for the increased security, according to Clark.

Longstanding tenants that initially threatened to relocate to other airports have stayed and VLD is even attracting new customers. "Because of our state-of-the-art access control and security, we've had many private pilots and businesses calling to relocate their aircraft to our facility from less secure airports," concluded Clark.