

## Testimonials

### Concord Airport

Weekly, during race season, 26 NASCAR teams fly in and out of North Carolina's Concord Regional Airport. Based at this airport are 185 aircraft, valued at more than \$180 million. We are responsible for providing a safe and secure environment for based and transient aircraft such as Gulfstreams, Challengers, Regionals and SAAB 2000s.

To enhance our security, we chose TTI Wireless to provide wireless surveillance equipment to safeguard airport assets. With the TTI Wireless system we can monitor our ramp, hangars, airport building and other areas. We also have special cameras monitoring our gates. A pan-tilt-zoom camera on the top of our terminal affords our CSRs with a 360-degree view of all airport operations and parking area. To equally enhance security at our fuel farm, we installed a camera there, too.

We also conducted a survey and found that most corporate pilots wanted to see—on a timely basis—their customers coming thru the front door. To meet that need, we also installed a camera.

We are now investigating with TTI Wireless the benefits to be gained by installing additional new cameras, which will be used for tail number identification. We want to know the exact numbers of aircraft landing and taking off from Concord Regional. This information will be proof-positive to the FAA as to the total number of aircraft movements during a 24-hour period.

#### **Richard K. Lewis,**

Aviation Director, Concord Regional Airport

### Franklin County Airport

Franklin County Airport is a reliever field for Raleigh-Durham Airport. Early 2006, we began working with TTI Wireless to develop an airport security system. We called it "experimental" since TTI Wireless kept working on the system, changing cameras, camera lenses and camera positions, until they maximized its effectiveness. We now have a superior security system that includes three cameras on the runway to record tail numbers, three cameras monitoring the gates to identify vehicles and passengers, and a pan-tilt-zoom camera on the top of the terminal building providing a panoramic view of the ramp and hangar area. All cameras are tied into TTI Wireless Wasp Central and the sheriff's office.

We also plan to install an additional camera, which will help us monitor aircraft movements at the Franklin County fuel farm. We want to extend the runway from 5,500 ft. to 6,500 ft and we plan to use TTI Wireless Wasp Central recorded aircraft movements on our field to gain DOT funding..

#### **Ronnie Goswick,**

Director Economic Development Commission,  
Franklin County

### Flagler County Airport

At Flagler County Airport, with more than 190,000 operations yearly, we rank as one of the top 10 busiest general aviation (GA) airports in Florida. Up until last year, we had real difficulty tracking the comings and goings at our facility. This included people, vehicles and aircraft. We are staffed from 7 am to 6 pm only, so nighttime traffic was completely unmonitored and often unaccounted for.

TTI Wireless installed a demonstration system including a pan-tilt-zoom (PTZ) camera to view and identify activities on the ramp area, FBO access, parking lot and our main vehicle gate, and one fixed camera to monitor aircraft operations. We immediately saw the advantages of such a system for an airport like ours.

It worked so well that we are working on a plan to install a complete system with cameras at all gates and other facilities to monitor all aircraft movement areas. This will allow us to monitor all airport activities on a 24/7 basis without full-time staffing. It is very important to us to be tied to a monitoring station like Wasp Central so we can be provided alerts to watch-listed aircraft, unauthorized intrusions at the gates and security breaches at the fuel farm.

Ultimately, we would like to see all GA airports in Florida tied into Wasp Central style monitoring station so we all will be on the same page. What a fantastic security process.

#### **Jack Thompson,**

Flagler County Airport Director



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How valuable is it to know which aircraft are landing at your airport and have the ability to track and record all movements on your field? To have tip-of-the-finger access to information that can help your airport with Security, Law Enforcement and Aircraft Management? To be plugged in to a universal system to help ensure state and national aviation security?

**Chances are, the answer is “very important!”**

TTI Wireless has developed state-of-the-art technology available to airports nationwide that does all these things and more. We call it the WASP (Wireless Access Surveillance Platform) Aircraft Surveillance and Alert System. It is a system of wireless cameras and computer technology that allows you to monitor—through visual aircraft “tail number” identification—the comings and goings at your airport in real time.

**The WASP System includes:**

1. Wireless digital fixed-camera units placed along the taxiway or taxiway and runway connectors. The installation meets FAA airport operating standards. The WASP unit also includes an infrared nighttime illuminator for 24/7 high-quality images.
2. Wireless advanced optic digital pan-tilt-zoom remotely controlled cameras that an operator will use to scan the airport ramp, tie-down areas, fuel farms or other environs obstructed from view.
3. A local computer server which functions as a Network Video Recorder (NVR) and stores filtered images of detected events.

**WASP Central**

This wireless two-way communications between taxiway cameras and the local network video computer is called “WASP-Net”. We think of it as a Local Communications Network where the



information from airport cameras is stored on a network video recording computer and then transported by static internet IP to WASP Central where it is analyzed, stored and communicated back to the airport end-user.

WASP Central is dual password protected and can be accessed by airports via encrypted VPN connection using a standard web browser on a desktop, laptop or PDA.

At Wasp Central our operators process video images, record tail numbers and monitor the network to ensure alerts are sent to appropriate personnel. This information is automatically verified in the FAA database to identify the aircraft registry.

What can an airport do with aircraft tail number information? This system offers three distinct benefits: Security and Law Enforcement, Aircraft Management and Noise Abatement.

**Security and Law Enforcement**

Airport operators want to know their facilities are secure. Many have installed fencing, cameras and access controls. But none of these prevents an aircraft from arriving at an airport unannounced or unrecognized. The WASP system can record aircraft movements—both arrivals and departures—and notify airport or law enforcement officials if there is a breach in security.

• **Using uncontrolled airports.** Many county and municipal airports lack a control tower or instrument approach equipment. Under these circumstances, aircraft filing IFR can easily land at these non-equipped airports and feel free to not close out their IFR ticket. Often this is just being forgetful, but if someone were intent on committing a crime or terrorist act, the perpetrator may go undetected.

• **Aircraft flying VFR.** Small, lightweight single engine general aviation aircraft most often fly from point to point on a VFR flight plan. These are registered aircraft but even when landing at a controlled airport they can go unnoticed or unreported.

**WASP Central receives the tail number images from the airport. These images are processed to obtain registration (N) numbers, aircraft type, airport code, time and date, whether a base or transient aircraft, flight direction and the airport camera's number.**

If the registered aircraft appears on the TSA or FAA watch list, then an electronic alert message is sent back to the airport. This real-time alert allows local law enforcement or other federal agencies an immediate means to mount appropriate action.

Providing alerts of suspicious aircraft to local law enforcement and other agencies enables better coordination of time-sensitive law enforcement activities. Information is passed on within seconds regarding the status of an aircraft nearing take-off or an aircraft that has just landed.

While the appropriate response action is underway, remote monitoring on WASP Central increases situational awareness and response coordination by tracking and recording of events such as aircraft and vehicle location and identification.

**Aircraft Management**

Airports are continually looking for ways to improve their revenue base and are also looking for ways to ensure they remain eligible for airport grants from the FAA thru accurate reporting on aircraft movements at their airports.

Proof that an airport has a viable surveillance and security system might also make it eligible for other federal funding. The WASP system can be an extremely effective tool for these purposes.

The WASP central database of aircraft movements provides data not otherwise available at general aviation airports (like non-scheduled flights) which enables the most accurate and up-to-date information about aircraft usage, flight patterns, airport routes, noise abatement and flight times.

• **Landing Fees.** Airport operators often hire counters. These are individuals who work on eight-hour shifts and their sole purpose is recording the tail numbers of aircraft that land at that respective airport. Landing fees are a good source of revenue but according to several federal government reporting organizations, airports traditionally do not account for 10 to 15 percent of the aircraft which land daily. At a municipal airport, that can mean losing tens of thousands of dollars yearly.

• **Billing.** The WASP system can also enhance the accuracy and reliability of an airport's billing system. Once the airport receives the data (tail number registry) from WASP Central, then the airport can match that with their list of aircraft owner/operators and bill accordingly.

The WASP system offers 100 percent reliability in providing accurate billing information on aircraft landings. **Just by eliminating missed revenues the airport can pay for the initial WASP system hardware in less than two years.**

• **Aircraft Movements.** Airport Authorities are continually seeking the means to obtain federal funding for new landing systems, runway improvements, lighting and security hardware. The process is simple. Document the number of movements and the DOT will determine if the airport warrants funding. Getting this documentation is often time-consuming and costly. The WASP system



can hasten this process. WASP Central can use its digital information database to document every movement at a specific airport. For example, if an airport is looking for funding for a new runway, WASP can be programmed to clearly earmark the exact number of take-offs and landings, including aircraft class and weight. That information is invaluable when presented for funding review.

**Noise Abatement**

Airports continually receive aircraft noise complaints. Determining the source of this noise is often a guessing game since usually the complainant can provide only a general time of day of the occurrence. WASP Central can quickly determine all aircraft that took off during the timeframe in question. Once the aircraft has been identified then the airport can easily determine which aircraft during that timeframe was the possible culprit. The airport can in turn contact the operator and determine if the aircraft meets local noise abatement restrictions.

**Marketing WASP Central**  
The WASP system can offer some unique marketing opportunities.

• **Sharing Information with Fractional Operators.** With the WASP system, cameras are strategically located to record tail numbers and other data. Airports can offer their fractional clients a paid service allowing them to monitor their own activities with a camera dedicated to recording fractional operator tail numbers as well as the time and date an aircraft landed, thus providing a log for each user.

• **Sharing Information with an Airport's Fixed Base Operators.** Airport FBOs often want to expand their market base by offering their services to transient aircraft. This is a very competitive business amongst FBOs. Airports using the WASP system can offer these FBOs the chance to purchase aircraft operation information in order to market more competitively. If there is more than one FBO on the field, the information can be offered to all, equally. Once the tail number data is purchased by the FBO, it can develop its own marketing database.

**Auxiliary Benefits of WASP Central**  
“WASP- Net” is an Intelligent Video System networked across several airports and linked to a central data hub—WASP Central. This centralized surveillance system offers the following auxiliary benefits: Resource Pooling; Cost Sharing; Operational Efficiencies and Lower Insurance.

• **Shopping For Security.** While airport security technology is getting increasingly complex and costly, airport managers are finding it difficult to determine what kind of system to purchase and how to keep it operating and updated as technology

advances. By selecting features of a known proven system and joining a network of linked airports, all operators can build a tailored surveillance system to meet their needs and benefit from the pooling of resources, sharing of cost, operational efficiencies and exchange of information among airports and users.

• **Competing Stand Alone Systems.** A security system that is not supported by a virtual network often requires redundant resources and may not be compatible in a network.

• **WASP Central Ties Multiple Systems Together.** By employing a centralized system's approach, the end user gains enhanced efficiency, reduced operating costs, a higher level of system compatibility and in the long term lower system maintenance. Further it may reduce the cost of insurance for the airport facility and on individual aircraft by providing real-time aircraft security data on numbers of aircraft, air traffic and runway incursions.

**End-User Information and Cost**  
The WASP system is configured to provide each user with an encrypted Virtual Private Network (VPN) IP connection using a client's own MS Windows username and password.

**WASP Central offers three different log-in levels for end-users**

• **Administrative.** At this level the end-user can access all information at their airport and add/remove cameras, alerts, users and passwords from the system. This provides the airport with an invisible security net over all critical areas such as access points, fencing, fuel farms, hangar exteriors, ramps and runways.

• **Full Access.** This is meant for use by local law enforcement agencies or others who want to observe general activities at the airport. This group would have access to specified cameras, add/remove specific alerts and receive an alarm if there was a breach in security or intrusion by an unauthorized aircraft or other triggered event at fuel farm, gates or hangar exteriors.

• **Limited Access.** This access would be reserved for tenants who were interested in gaining information about transients landing at their airport or who wanted to view movements on their own part of the field. Information can be limited on an as-needed basis by the airport authority.

**What the Future Holds**

The sky is the limit. We think WASP Central will become the information gathering prototype for state aviation systems. Just think—all the airports in one state hooked into a central system that monitors tail numbers to support security but that can also be a reliable source for increased airport revenues.



**Tail Number Identification: Detect, Capture, Record, Alert, Report.**