



FAPS INC.

This port-side automotive pre-delivery company used wireless hand held computers and a unique wireless infrastructure to achieve inventory tracking success in their 250 acre facility.

Since 1956, FAPS Inc., based in Port Elizabeth, New Jersey, has been a pioneer in North American Automotive Pre-delivery Service including Mechanical, Transit Body Repair, Refinishing, Assembly and Modifications.

Faced with the need to check-in and track incoming cargo, FAPS Inc., decided to research wireless mobile solutions that would cover 250 acres of property without interference. After testing several solutions, FAPS Inc. decided to replace its existing paper-based tracking method with a Psion Teklogix solution featuring rugged hand held devices and Fidelity Comtech access points, with the help of integrator Millennium Technologies.

"We found the 7535s to be more robust with larger buttons, which make them easier to work while wearing gloves in the winter. In addition, windshield glare and sunlight was not a problem for the device when scanning. We now have a truly mobile real-time inventory management system and have since implemented [the same] solution at other facilities." - Chris Heizmann

The Challenge

Delivering wide area wireless coverage no matter the distance

With over 250 acres of land and 40,000 cars moving through the yard a day, FAPS demanded a unique wireless computing application. They faced several challenges in order to find the correct solution. The first was finding a solution that would not limit the amount of cargo space in the stock-yard. FAPS needed a system that could support wireless connectivity in a large area outdoor management situation with as few access points as possible. Since they had so many cars passing through the lot daily, it was imperative that the antennas didn't create unusable space on the property.

In addition, FAPS needed rugged hand held devices that were able to work day-in and day-out in their demanding environment. The devices also needed to read and scan barcodes through windshield glare. Additionally, the keypad on the device had to be large enough to be used by employees wearing gloves during the cold winter months.

FAPS also faced the challenge of finding a solution that would send and read messages without environmental interference. With metal glares and sizeable obstructions on their property, it was difficult to find a reliable solution that delivered a secure signal in their environment.

Chris Heizmann, FAPS IT director said of these issues, "Wireless systems using standard access points are challenged by long distances and multipath interference from reflective metal surfaces and other large obstructions. We had trouble finding the right solution that would capture the necessary information consistently."

The Solution

Millennium Technologies delivers fantastic results with Psion Teklogix 7535 and Fidelity Comtech

FAPS' integrator, Millennium Technologies partnered with Psion Teklogix to deliver the real-time wireless inventory tracking system that FAPS demanded.

Installation Profile

Technology User:

FAPS, Inc., a port-side automotive pre-delivery company with a 250 acre outdoor operation.

Objective:

An extended reach outdoor realtime wireless inventory-tracking system.

Results:

- Wireless reach four times greater than competing solutions
- Significant reduction in antennas and access points
- 75% less expensive than other solutions
- Improved productivity by 10%

ROI:

Original estimated payback within 6-12 months.

Future Improvements:

Add-on availability of RFID.

The Psion Teklogix 7535, a robust hand held device, offered an answer to the on-going issue of scanning barcodes in sunlight and glare through the windshield. The device scanned in all forms of light continually in the testing stage and delivered the flexibility of operating in harsh environments like the FAPS operation. In addition, the ergonomic design of the keypad enabled workers to operate the device, even while wearing gloves.

“Psion Teklogix 7535 wireless handheld computers were selected after many months of testing various devices on the market,” said Chris Heizmann. “We found the 7535s to be more robust with larger buttons, which make them easier to work while wearing gloves in the winter. In addition, windshield glare and sunlight was not a problem for the device when scanning. We now have a truly mobile real-time inventory management system and have since implemented [the same] solution at other facilities.”

Once the hand-held computer was selected, all the solution needed was a wireless infrastructure that would work in FAPS’ unique environment. With Millennium Technologies’ expertise and the support of Psion Teklogix’ partner Fidelity Comtech, FAPS found the remaining piece of the puzzle.

Millennium Technologies recommended Fidelity Comtech’s Phocus Array System. A key benefit this system provided was its

patented beam steering technology which allows the shape and size of the antenna to be varied on a packet-by-packet basis. This flexibility allows the beam to be pointed instantly for increased signal range and improved network reliability. The system



This map of the FAPS, inc. facility shows the complexity of the environment for an outdoor wireless installation.

extends the wireless reach of Wi-Fi by four times and can replace as many as thirteen commercial wireless access points, significantly reducing the number of supporting poles and network infrastructure requirements. Fidelity Comtech’s system also incorporates WPA and WPA2 wireless

security with 3DES and AES encryption respectively, meeting the many challenges of the FAPS operation.

Today, with Millennium Technologies’ help, FAPS uses the Psion Teklogix 7535 and Fidelity Comtech’s Phocus Array System as a reliable, secure extended wireless yard management system that works seamlessly with their core application.

John Templeton, Millennium Technologies president/owner, said “In looking at a solution for FAPS, we wanted to bring the most value for the least amount of money. We used about 30 Psion Teklogix terminals and were able to connect to FAPS’ already-installed, homegrown AS400 computer system. Because we could use fewer access points with the Phocus Array System, our engineering time dropped from 15 days to two or three.”

The Benefits

The yard management system presented by Millennium Technologies met all the requirements FAPS demanded and more. With the technology expertise from industry leading companies, FAPS was able to install an outdoor real-time wireless inventory-tracking system cost-consciously and quickly. The wireless frequency reached four times greater than the original system and delivered improved productivity by 10%. The system was 75% cheaper than other competing systems which allowed greater return on ROI with less initial investment. Additionally, the solution enabled significant reduction in antennas and access points as well. This cut down on implementation time therefore making the solution more cost-conscious. FAPS is now able to track all cargo efficiently without system failures and with a happier and more productive workforce.



The 7535 offers advanced ruggedness with an IP65 rating against dust and water. Superior single-piece molded plastic construction and hard-cap keys provide durability to withstand 5’ drops to polished concrete.