Mexican Customs Improves Duty Collection and Enhances National Security:
Americas Resources Deploys Two Technologies' JETT®•RFID

A Two Technologies Case Study

When the Mexican Customs Administration (AGA) and the Confederation of Customs Agents Associations of Mexico (CAAAREM) needed a rugged, efficient, high-security identification and control system to manage the country's Used Vehicle Import operations, they had three main goals in mind: **Enhance Duty Collection, Increase Security, and Provide More Certainty to the Individuals Importing the Vehicles.**

Importing used vehicles into Mexico is a high volume activity and generates significant duty revenues for the Mexican Government. Due to its very nature, there's a strong correlation between this activity, the Mexican economy and National Security. However, it's a process that is susceptible to corruption and fraud, such as smuggling vehicles to be used illegally, or without paying proper import duties. Therefore, effectively controlling the importation of used vehicles is critical, and the challenges are many.

AGA is the federal agency charged with overcoming these challenges, and CAAAREM is the organization in charge of execution, generating and promoting improvements in all sectors related to Mexico's international commerce. Together, these organizations control and regulate the import and export of all goods and their transportation, enforcing regulations and collecting import duties.

Due to its technical capabilities and past experience successfully working with the Mexican Government on other control and security projects, Americas Resources was selected by AGA – CAAAREM to design and develop a system to

manage these processes more effectively. The comprehensive solution they would ultimately provide was required to address the many difficulties posed by the large-scale import of used vehicles, including all pertinent security issues.

Complex Challenges, Evolving Technologies

Americas Resources proposed a Secure Vehicle Registration (SVR) system, utilizing an RFID-Holographic ID tag solution, to the Mexican Customs Administration (AGA) and the Confederation of Customs Agents Associations of Mexico (CAAAREM). AGA – CAAAREM was interested in these technologies both for this program as well as to serve as a platform for others in the future. The proposed solution had several features designed specifically to achieve the main goals outlined at the outset of the project.

THE COMPANY

Americas Resources

THE INDUSTRY

Government, Customs & Duty Collection, National Security

THE CHALLENGES

Importing used vehicles is a high volume activity in Mexico, generating significant duty revenues for the government while posing significant challenges in the areas of fraud, corruption and national security.

THE SOLUTION

The Secure Vehicle Registration (SVR) system is a comprehensive solution for electronic vehicle registration, identification, authentication and control. Its applications include vehicle import registration, vehicle title & registration, tax, insurance and inspection control.

THE RESULTS

Since implementing the SVR system, featuring Two Technologies' JETT•RFID hand held computers, all used vehicles are orderly and legally imported and controlled. These operations generate exceptional duty revenue.

"This is the first step towards guaranteeing legal security for the importers. It avoids document forgery and eliminates the introduction of stolen and illegal vehicles into Mexico"
Aduana (Customs) Magazine, CAAAREMS informative publication. January 2006.

Two Technologies, Inc.
Hand Held Computers • Your Way • Since 1987

- Secure visual identification and authentication.
- Secure, efficient electronic information storage.
- Ability to read and authenticate information in the field without the need to communicate with central databases.
- Efficient and flexible management tools including hardware and software.

Designing, developing, and implementing a complete "Vehicle Identification, Authentication and Control" tag-based solution with all the IT infrastructure needed to support it presented some challenges. Selection and integration of the best technologies with the customer's proprietary systems was one such challenge.

With a tight project schedule and very specific hardware requirements, RFID hardware research and selection became a challenge. Also, involvement of many individuals belonging to different public and private entities made hardware presentation and acceptance a time consuming activity. One of the most important hurdles to overcome was achieving high performance, mission critical standards. Accepted devices had to prove themselves against competition under rigorous conditions.

software which could run without problems in the unit, such as java compatibility; proper documentation for developers and availability of technical, design support.

Ruggedness, Performance & Reliability: required to withstand difficult, sometimes harsh conditions such as extreme humidity and temperatures, vibration and shock, must perform every time and must maintain a high level of RFID read integrity.

Manufacturer / Supplier Capabilities and Support:
Americas Resources evaluated production capabilities, knowledge and attitude towards technical support, willingness to participate in the project and be of assistance to them from design-in through production.

In evaluations comparing a field of nine competitors' products to these criteria, Two Technologies' JETT®•RFID hand held computers were selected as the best, having topped just about every category.

> "Among other advantages, it provides a higher security level for authorities and more agility in the data capturing of the import process, which was formerly made in a conventional way in the system"
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> **Mr. F. Jaime King C., CAAAREM Vice President, "Reforma" newspaper, December 9, 2005**

Closing the Security Loop Requires Rugged Solution

Early in the design process, "portable, autonomous RFID readers" were identified as a necessity for allowing field agents to locally perform complete inspections while validating all relevant information on-site without depending upon communication with central databases.

Criteria for choosing these hand held RFID units were extensive and rigorous:

Technical Features: RFID module read range, battery capabilities and charging, display, communication ports (both wired and wireless), memory spec, expansion capability, and physical characteristics such as dimensions and weight.
Ease of Integration to the SVR system: ability to develop specialized

In the Field: Holographic Tags, Rugged Hardware, Mission Critical Software

The Secure Vehicle Registration (SVR) system is a comprehensive solution for electronic vehicle registration, identification, authentication and control integrated by an RFID/visual-ID Label or tag, RFID hardware and system software. Besides vehicle import registration, its applications include vehicle title & registration, tax, insurance and inspection control.

During the import process, information about the vehicle and the process itself is stored in the label. The label is applied to the vehicle's windshield. From that moment on, any inspection or verification activity is made relying on the label, its information and the hardware and software performance. Generally, inspections are done in the field where information stored in the label is read through Two Technologies' JETT®•RFID hand held computers. This information is of invaluable use in automated tracking and management by computerized administrative, financial and security systems.

> "Our mandate was to develop technology to enable improved duty collection, provide added assurance to those importing used vehicles, and enhance National Security. Two Technologies' collaboration was invaluable in achieving those goals."
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> **Fernando Padres R., Americas Resources.**

The JETT®•RFID hand held computer is therefore one of SVR's main components. The performance of these units is critical for handling field inspections properly, activities that are crucial to closing the security loop. In the field, inspection agents are provided with JETT®•RFID hand held computers which must withstand difficult, sometimes harsh conditions, such as extreme humidity and temperatures, vibration and shock, etc. Regardless of the operating conditions, the portable units must perform every time and must maintain a high level of RFID read-integrity.

Collecting Revenue, Protecting National Security, Creating New Opportunity

The SVR system, featuring Two Technologies' JETT®•RFID hand held computers, was implemented in September 2005. Since then, all used vehicles are orderly and legally imported and are being controlled with the help of this new technology. These operations represent considerable duty revenue collected by the Mexican Customs Administration.

From the beginning, Americas Resources' experience with Two Technologies and the JETT®•RFID has been exceptional. Software development for this unit was a logical, ordered experience. This greatly contributed to meeting milestones and project deadlines. Changes and iterations have been done without problems. After development and implementation phases and a year of running the program, the JETT® has lived up to its initial evaluation results. Its RFID reading has performed as expected including both range and integrity. General performance, including batteries and display, have presented no problem.

"Implementation of the SVR solution for AGA – CAAAREM has proven Americas Resources to be a highly capable RFID systems integrator and solution provider. Its successful results have been gradually creating opportunities for similar programs. Integration of the JETT®•RFID hand held computers played a particularly important roll in this by demonstrating its performance capabilities with no failures to speak of. This in turn helps Americas Resources minimize the technical support required by the customer."

Guillermo Gutiérrez F., Americas Resources.

About Americas Resources

Americas Resources is a Systems and Technology Integration company providing world-class solutions to the private and public sectors. Our established solutions enhance contraband and stolen-vehicle detection, tax & duty collection, inspection control and pattern/trend creation. AR developed VICEC, a high-end, control and risk analysis tool for vehicles at border crossings, which can identify over 4,000 models of passenger vehicles, detect overweight accurately and perform reliable license plate recognition. AR also developed the SVR "Secure Vehicle Registration" system based on a proven anti-counterfeit tag, which has helped authorities secure the collection of import duties. Both solutions can be easily integrated with other proprietary systems. For more information on Americas Resources please visit: www.ar-mx.com.

About Two Technologies

Two Technologies Inc. designs and manufactures customizable, rugged hand held computer and terminal products for global applications. With over 4,000 customers and one million products in the field, its devices are deployed worldwide, helping to improve operational efficiency and bottom-line performance. Founded in 1987, Two Technologies continues to be recognized for providing unsurpassed value and service to its VARs and OEM customers. The company has succeeded in leading its market segment by providing high quality, cost-effective, customizable products with industry-best customer service. The company's highly automated manufacturing and test facility in Horsham, Pennsylvania is a model for state-of-the-art, surface mount assembly and is certified to meet ISO 9001:2000 Standards. All standard products from Two Technologies are FCC and CE certified, and RoHS compliant.

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RoHS compliant

ISO Registered Management System CE