



Mobile AIDC and Labeling Solutions

This Mobile Solution Beats the Heat in Paradise

Companies utilizing mobile solutions expect clear benefits and quick return on investment – so what happens when old technology actually causes inefficiencies and bad data? Smart companies look for better solutions. This is exactly what Toyota decided to do when they needed to improve management of incoming vehicle shipments to Puerto Rico. Luckily for them, a better solution was available – thanks to the creativity and imagination of a company called Caribbean Technical Services (CTS).

The challenge offered to CTS by Toyota was considerable. Mobile workers at the docks in San Juan must process 300 to 400 incoming vehicles per day. Each vehicle must be identified accurately by VIN number. Any damage suffered in shipment must be recorded before the vehicle responsibility is transferred from the shipper. A Fleet Management Systems Label including the VIN and any damage information encoded must be affixed to the vehicle. The vehicle must be matched with its planned destination – which could be a dealership or a stock location. Vehicles are combined into shipments for transport to their destinations. The mobile workers must record which vehicles go with which shipments and produce documentation to transfer responsibility to the transporting company.

CTS, with over 20 years of implementing custom solutions for hardware and software needs, was up to the task of developing the application. The real challenge was finding the mobile hardware and a label that would stand up to the heat, sun, and rain in Puerto Rico.



In Brief

COMPANY:

Toyota Puerto Rico

CHALLENGE:

Create an integrated mobile solution for data collection and vehicle labeling. Improve efficiency of mobile workers. Increase accuracy and accountability of vehicle status and location.

SOLUTION:

- Custom AIDC Solution developed by Caribbean Technical Services (CTS)
- Intermec 751 Color Mobile Computer
- Printek MtP400LP Mobile Thermal Printer
- Self Contained Thermal Transfer Labels (SCTTL)

The mobile workers faced operational problems with the equipment that was in use, which caused downtime and error-prone manual work-arounds. Thermal transfer printers were employed to produce the vehicle labels. These printers, larger than models using direct thermal technology, were bulky and inconvenient to carry. Workers were forced to carry spare batteries, spare label media, and spare thermal transfer ribbons to insure they could print labels when needed. Their media rolls contained only 80 labels, forcing roll changes multiple times a shift. On their handheld devices, LCD screens were difficult to read. Wand type barcode scanners were proving unreliable over time as tips would wear and barcodes were misread repeatedly.

CTS's selected hardware solution would need to operate flawlessly in the hot sun and in rain, which averages around 62 inches annually. The equipment would have to be rugged to hold up to use at the busy ship side location. The vehicle label would need to remain clear and readable for as much as 10 months of exposure to the elements. The productivity and accuracy of the mobile workers needed to improve. To meet these needs, CTS enlisted the aid of key partners Printek Incorporated and Innovative Label Technology, Inc.

One of the first dilemmas to be addressed was the label durability challenge. It is accepted that thermal transfer technology produces clear, sharp barcodes and labels. However, thermal transfer technology was causing the customer to spend too much time maintaining the printers and burdening the workers with too many items to carry. If direct thermal technology were used –

how to get the crispness and durability the application requires? Enter Al Doi, founder of Innovative Label Technology, who was able to demonstrate to CTS a Self Contained Thermal Transfer Label (SCTTL) that carried the thermal transfer film on the same roll as the label itself. The mobile worker would no longer need to carry or load a separate thermal transfer ribbon if this new media could be employed. But would it work?



SCTTL media and PrintekMobile technology provide the benefits of durable thermal transfer labels produced with compact, low maintenance direct thermal printers.

CTS had by this time come in contact with Printek Incorporated, Benton Harbor Michigan, manufacturer of PrintekMobile direct thermal printers. CTS worked with Toyota to rate printers from Printek, Zebra, Sato, O'Neil, and Intermec on key points including form factor, reliability, battery life, and media types and capacity. PrintekMobile's MtP400LP direct thermal printer emerged as the clear front runner with battery life exceeding a shift in a Bluetooth® wireless application, a generous roll

capacity at 2.625" maximum roll diameter, a comfortable form factor for a mobile worker carrying the printer all day, and proven reliability.

An IP54 rating and drop test rating of repeated 4' drops to concrete qualified the printer on paper – but it was the reliability proven by use in the field that convinced Toyota and CTS that the PrintekMobile printer was the right choice. "Clear battery status, wireless operation, and media level indication makes the printer easy to use for the mobile worker" says Carlos Bonnet, President of CTS, "while the LCD display with full menu access made the unit easy to set up for us."

To obtain printers for evaluation, CTS contacted Printek and was quickly introduced to the partnership philosophy that the company prides itself on. An evaluation printer was quickly dispatched. "There is no doubt that the service and support that comes with a PrintekMobile printer differentiated their offering in our minds" says Bonnet. "CTS had immediate and ongoing access to technical support as the solution was proven – to both our and Toyota's satisfaction".

The self-contained thermal transfer media roll fit and fed through the printer predictably and repeatedly. With the help of Printek support, CTS quickly identified the settings that would optimize the print job and the label's appearance, such as print

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contrast and print speed. The easy drop in loading pleased Toyota immensely – no more ribbon loading and no threading required. PrintekMobile pre-sales support answered all of CTS's questions quickly – enabling them to integrate, test, and implement the solution in just three months.

Today the full solution is operating as promised for the customer – with all of the productivity improvements envisioned being realized. Labels print much faster due to reduced data transfer time (from 15 seconds to 7 seconds) and the MtP400LP's fast print speed. Labels are more durable and are printed on media that does not tear, fade, or deteriorate in the sun and rain. The media is so well liked by Toyota that they even use it to print the receipt that goes with the transporting company that moves the vehicles to their destinations. The mobile workers carry about half the



Labels produced on the MtP400LP printers are affixed to the outside of vehicles and must remain readable up to 10 months despite exposure to sun and rain.

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weight they did previously by reducing the number of extra media rolls, eliminating the ribbon rolls, carrying only one small extra battery, and reducing the weight of the hardware itself. Barcode scans are accurate the first time and manually entering VINs as a work-around has been virtually eliminated.

According to Rafael Pérez Colón, CTS's CIO of Enterprise Applications, the robustness of the solution and the hardware has allowed the label to be made larger and more readable, with more text and encoded data and larger fonts. "Toyota is so pleased we are now in discussions on adding automation at the other

end of the delivery routes. There they add options and accessories to the vehicles – work done under tents in a large automobile lot. We could try employing a laser printer for documentation needs and hope that the toner doesn't cake up too much in the heat, but I think we would rather stick with the proven mobile printers from PrintekMobile."

For more mobile solutions, contact:

PrintekMobile
www.printekmobile.com

Caribbean Technical Services
www.ctsincpr.com

About Printek, Inc.

For more than 25 years, Printek has supplied innovative printing solutions to businesses and governmental agencies of all sizes.

The company's PrintekMobile group partners with hardware and software manufacturers, system integrators, and value-added resellers to deliver cost-effective mobile business solutions across a wide range of industries and applications.

PrintekMobile's direct thermal printers support cabled or wireless printing of invoices, forms, receipts, tickets, labels and other documents used in field service, route accounting, manufacturing, retail, transportation, public safety, hospitality, warehousing and distribution applications. Wireless options include Bluetooth® and Wi-Fi.

PrintekMobile printers are designed to withstand industrial use and are backed by unparalleled support and comprehensive warranties.