



Leading Mexico Rail Operator Mobilizes Smart Logistics Systems With Zebra Rugged Tablets

Proven tablet computer technologies provide perfect platform for implementation of award-winning business applications

Ferrovalle is a railroad and intermodal operator that receives and delivers an average of 20,000 trains and more than 1,000,000 railcars per year. Services include switching, terminal switching, origin switching, intermodal operations and other services within 200 hectares (494.2 acres) in operative yards for Mexico's three line-haul carriers. Each — Ferrocarril Mexicano S.A. de C.V. (Ferromex), Ferrosur S.A. de C.V., and Kansas City Southern de México S.A. de C.V. (KCSM) — has a 25 percent stake in the Ferrocarril y Terminal del Valle de México. The government holds the remaining 25 percent in the terminal. Constant development and extrovert orientation is omnipresent in their corporate activity. Customer satisfaction and stable, long-lasting trade relations are the prime mover of investments in infrastructure, R&D and total quality management. Haitoglou's business partners include major multinational food industries, bakeries, confectionery manufacturers, retailers as well as medium size companies and individual professionals.

Ferrovalle also owns Mexico's largest intermodal facility, which has an annual capacity of approximately 450,000 containers as of 2015. Ferrovalle Intermodal offers other services such as logistics, transload, warehousing, customs brokerage, recognition of merchandise and a host of other support services. In recent years, the Ferrovalle IT team led by Ruben Castillo Santistebe developed an additional niche. A 26-person IT unit develops, deploys and maintains most of Ferrovalle's software applications and hardware integrations in house. Under its "Zero Distance" philosophy Ferrovalle uses a balanced scorecard methodology to deliver realtime information to its clients regarding every business perspective. In fact, InformationWeek México in 2012 and 2013 ranked Ferrovalle respectively as first and fifth among Mexico's 50 most innovative companies, and GE honored them a Fast Track Award in 2013, 2014, and 2016. Rubén Castillo Santistebe was also designated as one of the top ten leaders in the CIO100 awards by PC World México in 2014 and 2015.



SUMMARY



Customer

Ferrovalle
México

Industry

Transportation - Rail

Challenge

Deliver Real-Time Data from Field across Railroad Operation to Clients, Replacing Pen & Paper

Solution

Ferrovalle-developed Software to Run on Zebra Rugged Tablets

Results

Rugged Tablet PC Performance and Constant Connectivity Pay Dividends

* Zebra acquired Xplore Technologies and all Xplore products in 2018.

Challenge

Deliver real-time data from field across railroad operation to clients, replacing pen & paper

To an extent, Ferrovalle's IT Teamwork has been pushing the technology envelope and driving incremental innovation efforts ever since the Ferrocarril y Terminal del Valle de México and Ferrovalle Intermodal facilities were privatized in 1998. Software applications developed in house - such as the web-based container tracking Logistic Intermodal System first implemented in 2005 - are upgraded every year per Ferrovalle's CIO Ruben Castillo Santistebe. But in 2010, Ferrovalle recognized an increased need to share information "from the black box to the glass box" in real time to provide total transparency to clients.

With pen and paper processes still dominating most of their data systems, Ferrovalle sought a truly mobile computing solution that was safe to use in the terminal, the intermodal facility, and even on its locomotives on all routes. Ferrovalle aimed for a "zero distance" solution that would allow them to perform their duties at the scene, while en route to the next call, or at the station.

Solution

Ferrovalle-developed Software to Run on Zebra Rugged Tablets

Ferrovalle began testing tablet PCs in 2010 and did an exhaustive analysis (led by Hector Lopez Velazquez, its IT infrastructure expert) of the most durable options in the industry. They selected the Zebra hard-handled rugged tablet platform for many reasons. The hard-handled rugged tablet features a touch-enabled View Anywhere® Display, a removable battery, and rugged pens for data capture while walking and working. Plus, the lightweight, ergonomic tablet can be easily carried throughout Ferrovalle's terminal and intermodal facilities using the molded handle, shoulder strap or tablet-back hand strap. It can also be securely mounted in the locomotives and cranes for around-the-clock access while workers are on the move. The Zebra rugged tablet provides a truly mobile, and full computing, solution for every member of Ferrovalle's workforce.

Ferrovalle was also impressed by the overall rugged durability of the Zebra tablet PC. With its IP54 rating, shatter-resistant Gorilla® Glass, and MIL-STD-810G certification, the rugged tablet proved resistant

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**Rubén Castillo
Santistebe
CIO, Ferrovalle**



against the frequent vibrations, drops, shocks, extreme temperature variances, and corrosive elements it was exposed to during daily operations.

However, the primary reason Ferrovalle invested in the Zebra rugged tablet was its proven and consistent delivery of real-time data access in all of the company's operating environments. The logistics software that Ferrovalle developed internally to drive its intermodal logistics systems, logistics services, and traffic control center. That's because Zebra rugged tablets were both backwards-compatible and future-ready, able to interface with other smart devices, geolocation applications, and the Internet of Things.

"The hard-handled Zebra rugged tablet has proven to be the ideal platform for our development and execution of smart logistics systems under a "zero distance" philosophy," explained Rubén Castillo Santistebe, Ferrovalle.

Upon the completion of its extensive field testing in 2010, crane operators in the terminal's intermodal yard immediately began using the Wi-Fi-enabled Zebra rugged tablets to track containers in real time. By the first year's end, each of Ferrovalle's 31 locomotive cabs was equipped with Zebra rugged tablets as well. Over the next five years, both the hard-handled rugged tablet platform and the Zebra R12 rugged slate tablet platform was introduced into Ferrovalle's operations. Intermodal yard technicians, train operators, and crane operators are still using the two Zebra rugged tablet platforms for container tracking, damage inspection, delivery and shipping, and work order completion.

As of 2015, Ferrovalle had completely replaced their paper-based systems with a combination of Zebra mobile and fixed computing solutions across their entire rail operation.

"The flexible mounting options offered by Zebra allowed us to confidently equip every train cabin and intermodal crane lift with rugged tablets. The "10" mobile computer is used 24/7 in the yards and operates in extreme conditions – heat, cold, rain, and sun – tracking thousands of containers a day. As a result, the rugged tablets have served as powerful and effective 'zero distance' tools in the transfer of real-time data from the field to each business unit, and even to customers seeking real-time tracking of their goods."

Results

Rugged tablet pc performance and constant connectivity pay dividends

Ferrovalle saved more than 5 million pesos within the first year of implementing the new Zebra rugged tablet-based systems. At the same time, the company increased revenues in their receiving, storage, and merchandise warehousing operations, achieving nearly a 40 percent increase in comprehensive income during those 12 months. Additional cost savings were achieved as productivity increased and crews could access up-to-the-minute data from a multitude of systems, whether they were in the yard, inside train cabins, or operating a crane. Employees could immediately access and complete checklists and provide container status updates, including damage reports.

“Ferrovalle’s employees are much more focused now that they have the Zebra rugged tablets to support their daily tasks,” Rubén Castillo Santistebe noted. “They have also become more driven on the job. They feel that they are part of something important as the result of our combined innovation and implementation of impactful mobile technology solutions.”

The real-time data insights and decision-making capabilities have enabled Ferrovalle to become much more customer oriented. The railroad has really improved its customer service capabilities, as well as its own internal efficiencies.

“Zebra Technologies and Ferrovalle have a long working relationship, complementary operating methodologies, and a technology architectures synergy,” explained Rubén Castillo Santistebe. “This collaborative mobility partnership has allowed us to successfully implement a number of innovative and productive logistics business applications developed by our in-house team. Zebra’s rugged tablet technology and unique expertise in the transportation and mobility space has allowed us to execute several effective mobile solutions that have garnered national and international recognition.”

What’s Next

Introduction of new rugged tablets and workflows

Ferrovalle is currently evaluating the Zebra XSLATE B10 Fully Rugged Tablet PC for use in new operations and on a new crane.



They also plan to transition to the B10 when it is time to replace older hard-handled Zebra rugged tablets currently utilized for terminal, intermodal, and locomotive-based workflows..

In addition, Zebra rugged tablet technologies have allowed Ferrovalle to refine and validate its logistics software solutions in real-world rail transportation environments. As a result, Ferrovalle has launched an initiative to sell its proven business applications to other train operations.

At this moment, the IT Team Ferrovalle has achieved the first sale of one of its products and they are working on additional sales opportunities.

For more information on Zebra Tablets and In-Vehicle solutions,
visit www.zebra.com/tablets



NA and Corporate Headquarters
+1 800 423 0442
inquiry4@zebra.com

Asia-Pacific Headquarters
+65 6858 0722
contact.apac@zebra.com

EMEA Headquarters
zebra.com/locations
contact.emea@zebra.com

Latin America Headquarters
+1 847 955 2283
la.contactme@zebra.com