CASE STUDY



SWEET SUCCESS: RUGGED MOBILE COMPUTERS **PAY OFF FOR SUGAR PRODUCER**

U.S. Sugar Corporation, one of the nation's largest sugar producers and processors, operates the world's largest fully integrated sugar factory. Built in 2007, it relies on the largest private agricultural railroad in the country with 120 miles of track, 1,000 specially designed 'cane cars' and 14 locomotives. This network connects vast fields of sugar cane to the mill and refinery in Clewiston, Fla. It must operate efficiently

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because once cane is cut, it begins to deteriorate and lose sugar content-which means a loss of profits. And yet, until U.S. Sugar began using ARMOR[™] rugged mobile computers, the movement of harvested cane through the vast network was tracked entirely by hand. ARMOR

Tractors haul cane from the fields to specially designed and strategically located sidings to be loaded via

RUGGED MOBILE SOLUTIONS elevators into waiting rail cars. In the original process,





With data input literally in the field, supply, quality and quantity are now sent wirelessly to the mill getting information quickly into their network.



elevator crews would fill out a ticket with information on the grower, field and when it ™ was cut – data that was

needed later at the mill. The paper ticket was lowered in a bucket down to the tracks and someone would place the right ticket into tubes attached to each car. A locomotive was then

> dispatched to haul the cane cars to the mill, where someone walked down as many as 100 cars and manually removed each ticket - or at least those that were not lost or damaged

by rain in transit. Only then, when samples of cane were



When other computers failed, US Sugar IT Application Dept. chose ARMOR rugged mobile computers because they are designed and extensively tested for long-term resistance to the shock and vibration, common in a locomotive-based operation.

tested by the lab for quality and sugar content, was the data from the ticket manually entered into a central computer system.

"The information wasn't timely and we couldn't get the whole picture of the supply coming in. We needed to get information quickly into the network, and also reduce data entry errors," says a U.S. Sugar IT operations manager.

U.S. Sugar developed software to track each carload of cane and installed computers at each elevator. Data is entered at the elevator and matched wirelessly with relevant data from the company's SAP system. Cars arriving at mill go through an RFID scan, matching each car with the harvest and SAP data.

In order to cope with a hot, dusty and dirty environment that is also subject to rain blowing through elevator windows, U.S. Sugar selected the ARMOR X10gx rugged tablet computer from DRS Technologies, which was built on years of military and commercial heritage.

The units' 10.4-inch sunlight-readable LCD touch screen was also a critical factor. "We actually conducted the first tests on a small hand-held device. We saw that the software worked, but that a small device was never going to work for our guys," he noted. "We needed a unit that can be securely docked with a full-size screen displaying big buttons so they can enter data quickly and accurately."

As well, equipping elevator crews with the ARMOR X10gx rugged mobile computer was a complete success. "It saved money and reduced errors. And it allowed us to get information on a much more timely basis."

A later stage of the project involved equipping each locomotive with a mobile computer. The goal was to add railroad logistics into the data that could be managed to improve cane age. The locomotive crews now enter their job status into the mobile computers and this data is again wirelessly uploaded to the software system and ultimately interfaced with SAP.

Based on the experience with rugged computers in elevators, the US Sugar IT Applications Department chose ARMOR rugged tablets to replace other units in the locomotives that could not withstand the harsh environment. Not only do the ARMOR units stand up to the agricultural environment, but they are designed and extensively tested for long-term resistance to shock and vibration – an important consideration for locomotive-based operation.



Time affects sugar content and getting data in advance to the mill is as important as keeping the train on schedule. ARMOR rugged mobile computers were chosen for their ease of use and survivability in the harshest conditions.

"We get better information on the age of the cane because there's a date and time for every step of the process," he said. "This means better management because we can easily see ways to improve the flow. Last season a business process improvement team using this technology was able to save an estimated \$4.4 million in cane age-related losses by optimizing the flow of fresh cane to the sugar mill."

The benefits of the ARMOR X10gx rugged tablet are also seen in U.S. Sugar's shipping operations where forklift-mounted computers employ bar code scanner technology to reduce errors and improve shipping efficiency. "From the elevators out by the fields, to the railroad system, to the mill and shipping, we really like the way the ARMOR computers have worked," added the operations manager.

"We already had the best technology to process the sugarcane, and with ARMOR rugged computers, we now have the best technology to manage the logistics, from getting cane to the mill to shipping our refined sugar products to market."



Military tested in the harshest conditions, ARMOR X10gx is the versatile tablet computer to keep your data safe and available wherever you need it.



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