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Terminal Expansion at Sonoma County Airport



PHOTO: CIAA

Owen Roberts Int'l Completes Airfield Improvements



Salt Lake City Int'l Supports New Terminal with New Enterprise Asset Management Software

BY JODI RICHARDS

FACTS&FIGURES

- Project:** Enterprise Asset Management System
- Location:** Salt Lake City Int'l Airport
- Cost:** \$2.5 million
- Deployment:** July 2020-end of 2021
- Technology/Process Consultant:** The JW Group
- System Deployed:** Maximo
- Supplier/Implementer:** Electronic Data Inc.
- Testing, Training, Post-Deployment Support:** Electronic Data Inc.
- Key Benefits:** Increased ability to track maintenance/inventory, maximize lifecycle costs & utilize staff effectively
- Of Note:** Key components of system went live less than 90 days after purchase, in time for opening of new terminal

When Salt Lake City International (SLC) opened the first phase of its \$4.1 billion redevelopment program to passengers in mid-September, airport officials understood the importance of making the most of that investment. So they took the uncommon opportunity of having a fresh, new facility to simultaneously implement a fresh, new approach to asset management.

Director of Maintenance Eddie Clayson explains that a \$2.5 million technology upgrade is allowing SLC to collect and manage data that helps it track inventory and maintenance records more accurately. The airport is also gleaning valuable information about ownership costs



EDDIE CLAYSON

and reducing the time and resources spent maintaining a wide variety of assets— everything from large air-conditioning systems to individual holdroom seats.

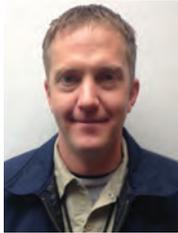
In all, the new facilities encompass more than 4 million square feet filled with a myriad of equipment and systems to maintain. The first phase of SLC's redevelopment project replaced three aging terminals with one central terminal and two linear concourses connected by a passenger terminal. Even before the recent changes, though, Clayson and his team had been eyeing a new enterprise asset management system. "I've been trying to get this system in place for a while because I knew the need," he remarks. Last year, SLC allocated funding for software and implementation.

Clayson notes that the previous asset management system was good at performing

basic functions, but the airport needed a more robust system with mobility features to keep pace with the facility's growth. "We have more assets and a lot more users," Clayson explains. "We needed something that was easier to upgrade."

In 2019, SLC served 26 million passengers with facilities designed to handle just 10 million annually.

Randy Newcomb, technical systems program manager at SLC, adds that the new system provides a clean slate and helps the airport proactively "right the ship," whereas the previous system and processes provided a look in the rearview mirror to see what had already happened. "It didn't go into a whole lot of depth or provide useful information that would help us determine lifecycle costs," he explains.



RANDY NEWCOMB

Due Diligence

The airport began the transition by working with a consultant to outline the functional and technical requirements for a new enterprise asset management system. "Clearly defining those before making a decision is key," Clayson advises.

The JW Group helped the maintenance team delineate its processes, explore new technology options and determine how an upgraded system would be of benefit. "You can't possibly know the things that you don't know," Clayson points out. "If it was left up to us, we probably would have kept the system we had because that's all we knew. It was a benefit to have an outside consultant."

Ultimately, SLC chose the Maximo system.

Understanding the airport's own procedures and policies before rolling out a new system was crucial, Clayson adds. "I think that upfront time saved us a lot of work as we implemented this. Time was of the essence—we were opening a building and needed the system running."

Having launched the previous system on its own, SLC wanted a partner with experience implementing asset management systems at other airports to lead its upgrade. After considering multiple options, the airport contracted Electronic Data Inc. for planning, configuration, testing, training, deployment and post-deployment support.

The project kicked off in late July 2020 with workshop discussions, and some aspects of the new management system were live as SLC opened its new terminal. "We actually had a working version of Maximo running for our 'trouble call' work orders in mid-September," Newcomb reports.

"It was a pretty aggressive schedule," Clayson acknowledges. But it was critical to have the new asset management system in place so management could ensure that components and equipment in the new terminal would be properly maintained from the very beginning, he adds.

Scott Yates, chief operating officer of Electronic Data Inc., considers it a major victory for SLC to have the new system operational just three months after the purchase contract was signed. "The airport didn't lose the opportunity to get good maintenance history about this new facility," he explains. "Had we not done that, they'd be keeping a lot of paper records and might never get the data into the system."



SCOTT YATES

Deployment is expected to continue through the end of this year, with SLC continuing to integrate more of its operating systems into Maximo and populate it with additional data.

Systems Integration

Even though Electronic Data Inc. customizes Maximo for specific locations, Yates has noticed that many airports' systems end up looking similar. Over the last 20 years, he has found that crews can deploy the preconfigured system fairly quickly and then evaluate for gaps based on each airport's individual requirements. At SLC, that involved adding specific buildings and subsystems that were not covered by the previous system.

Clayson notes that starting fresh with Maximo for the new facilities provided a clean transition because assets tracked by the previous system are no longer in service and many were torn down. SLC uses its new system to track components throughout the airport—from snow removal equipment to air handlers, and electric panels to baseboard heaters...even a transmission line for waste oil from restaurants.

Many recordkeeping tasks that were previously manual and involved a lot of paper are now automated via Maximo. The new system allows SLC to manage its assets, organize processes and procedures, maximize lifecycle costs and utilize staff in the most effective way, Clayson summarizes.

Depending on the work group and its needs, processes such as general inspections and work orders can be scheduled and logged in Maximo to ensure functionality of assets and, ultimately, customer satisfaction. "We will be able to perform tasks quicker

the JW group

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Elements of the new asset management system went live in time for opening day of the new terminal.



and when they need to be performed; not just based strictly on a schedule,” Clayson explains.

For example, holdroom seating with built-in electronic charging typically takes a lot of abuse from baggage and passengers over the years. Now, inspections are logged and tracked through Maximo to ensure safety, functionality and customer satisfaction.

Previously, recordkeeping was performed solely on desktop computers located in offices. But a mobile application is scheduled to roll out in March and SLC will distribute mobile devices throughout the work groups to facilitate quicker response to work orders. Having information at employees’ fingertips in the field will help SLC be more efficient—especially in the larger new facility, notes Newcomb.

“With our former system, we were almost all paper,” recalls Clayson. While a completely paperless system isn’t possible, the mobile application will allow SLC to greatly reduce its paper consumption related to maintenance.



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Currently, Computerized Maintenance Management System Administrator Nathan Bolander and his team are working on integrating assets and equipment with geographic information system (GIS) data. This new strategy, especially when paired with mobile devices, will prove particularly valuable for performing airfield inspections. Crews will use GIS technology to accurately mark locations of areas needing lighting or pavement repairs noted during regular inspections. "Instead of having to search for a pavement defect, they will know right where it is," Bolander explains.



NATHAN BOLANDER

User-accepted testing for this aspect of the system was expected to be completed by the end of February.

Maximo also helps SLC provide feedback and updates on work orders to various stakeholders. Timestamps document when a call comes in, when it is dispatched to personnel and when work begins and ends; and whoever initiated the request receives updates.

Clayson foresees considerable benefits regarding training and customer service. "We will better understand where our weaknesses are and where we need to focus our attention," he relates.

Cautious, Ongoing Implementation

Newcomb reports that deployment of the enterprise asset management system went well despite challenges posed by COVID-19. Training employees to use the new technology was more difficult because of limitations on large group gatherings to stop the potential spread of coronavirus infections. In March 2020, the airport modified employee shifts to minimize overlap for similar reasons.

Electronic Data Inc. still provided in-house training, but in smaller groups than usual. "That added a level of difficulty to the implementation," notes Clayson.

The new system and procedures also involved a significant culture shift. "Employees were used to paper in their hand and that process," says Newcomb. Despite the changes, he says that most are willing participants and understand why the upgrade was necessary after hearing discussion about it for years.

Yates notes that the biggest reason the initial deployment was such a success is because SLC prioritized its objectives and understood that the rollout is a marathon, not a sprint. "Most important was that their system was up and running with the new

terminal for maintenance history and cost data," he emphasizes. "This is the first step in evolving toward robust enterprise asset management."

Much of the remaining work will involve tying existing warehouse inventories into the system and adding new stock from the new construction, which is expected to be complete in early June. Clayson notes that inventory control and tracking were two of the previous system's biggest weaknesses. In contrast, Maximo is designed to automatically update the system as work orders are completed and personnel remove inventory from the warehouse.

Phase 2 of the deployment, which is expected to be complete by the end of the year, will integrate the airport's finance module, real estate module, fleet and automotive maintenance tracking program and safety management system.

Ultimately, SLC will be able to tie smart assets around the airport into Maximo. For example, sensors can be placed on baggage handling equipment, people movers or passenger boarding bridges to gather usage information that will drive maintenance decisions. Yates explains that such information will help SLC proactively head off failures, optimize preventative maintenance and provide better operational metrics.

Newcomb adds that once Maximo is integrated with the building automation system, the need for labor-intensive manual inspections will be reduced, saving even more time and labor costs. 



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Image Credit: Salt Lake City International Airport

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