



Panama's Manzanillo International Terminal Solves Data Dilemma with Tideworks Insight™

Insight offers a single-platform, real-time and historical performance view from all operational areas

As one of the most important port terminals in Latin America, Manzanillo International Terminal (MIT) in Panama offers an array of handling services, providing connectivity to 129 ports in 48 countries. The terminal is located adjacent to the Atlantic side of the Panama Canal and handles in excess of 1.8M twenty-foot equivalent units (TEU) on an annual basis. MIT has the infrastructure to handle container and roll-on/roll-off (RoRo) cargos, with more than 2,000 meters of quayside, 19 Post-Panamax and Super Post-Panamax gantry cranes, and advanced computer and management systems.

In 2012, MIT developed its own data warehouse and business intelligence (BI) solutions to store operational information from its terminal operating system (TOS), but quickly faced the challenge of not being able to integrate data from other systems into the database as needed. The terminal also experienced significant decreases in system performance when attempting to extract data from the TOS in near real-time, generating taxing reports, or otherwise performing demanding queries against the production system. The team at MIT quickly realized they needed to find a solution to access data from the TOS without impacting overall system speed and terminal performance.

MIT discovered that many potential solutions lacked adequate levels of customer support, and were not as customizable as they required. Available solutions were also unable to meet the terminal's specialized and precise maritime needs. "We urgently required the advantages of rapid functionality without a negative impact on system performance," said MIT Terminal Manager Oscar Caballero. "We needed to be able to draw in data from external sources as native SQL and integrate those with our own data. Ultimately, we needed to position the terminal to meet the evolving needs of our customers, which required a flexible, adaptable solution."

The Search

MIT needed a complete, 360-degree view of its terminal operations and the ability to connect external systems beyond the TOS to gain data visibility holistically across the terminal. The terminal also needed a solution to easily access, filter and drill down on enterprise and

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Terminal Manager
Manzanillo International
Terminal

operational metrics such as truck turn times and Automated Stacking Crane (ASC) productivity to glean critical insights and make decisions based on real-time performance.

Users would ideally be able to utilize this data platform for business intelligence, to organize metrics of key performance indicators (KPIs) into a single, self-service dashboard. The platform should also allow users to easily add new metrics without significantly changing existing data models, and store years of historical information for executive-level analysis and planning.

Partnering with Tideworks

After a thorough search, MIT began working with Tideworks Technology, a full-service provider of comprehensive terminal management and planning software solutions. Tideworks had developed Tideworks Insight™, a real-time and historical data platform that allows organizations to consolidate data into a single location to make quick decisions based on real-time information, and create strategic metrics for future planning. MIT and Tideworks partnered on a beta program to fully test Tideworks Insight with a limited team before full deployment across the enterprise.

During the beta partnership, Tideworks actively monitored performance, data integration and data accuracy for MIT. Additionally, based on feedback from MIT, the Tideworks team built and tested specific metrics around automatic stacking crane (ASC) productivity, with additional metrics continuously being added.

As part of the beta program, Tideworks trained business users on the self-service BI capabilities of Tideworks Insight using Tableau® for data visualization and distribution. For technical staff, advanced training in SQL was provided so that MIT could get the benefits of the new data platform without needing to sacrifice the flexibility they had with its homegrown platform. The MIT team also evaluated its existing reports, determined their value, and created new reports based on the heightened level of data that Tideworks Insight was able to provide. This led to the elimination of some duplicative reports, and the creation of new reports that were far more relevant and powerful. As the team became more familiar with Tideworks Insight, it quickly became apparent that even non-technical terminal employees were able to quickly create reports without having to rely on Tideworks or MIT's IT team, as had been the case previously. This led to more efficient workflows and increased productivity.

Success Factors

After beta testing Tideworks Insight, the solution officially went live at MIT in June 2017. "We were thrilled with the initial results," said Caballero. "It seemed too good to be true, especially with the dynamic and visual representation of the data that we were able to access for the first time. Tideworks Insight was also very intuitive for non-technical end users, which made it easy to deploy terminal-wide to our entire team."

Compared to MIT's previous data warehouse and BI solution, Caballero specifically cited the improved dashboards, significantly better system performance, increased data accuracy, and faster access to valuable performance metrics and reporting as key advantages of the Tideworks platform. One example

he explained, “is a report that had to be developed manually and took approximately 20 minutes to create. Now with Tideworks Insight, creating those same reports is almost instantaneous. Our team now can focus more time on analyzing information and applying it to our business operations – not on creating reports.”

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Tideworks Insight allows users at MIT to seamlessly access the databases of Tideworks’ core TOS products deployed at the terminal, including Mainsail®, Spinnaker® and Traffic Control™. This integrated solution provides MIT with a 360-degree view of their operations, while giving terminal operators the ability to join information from ERP or other non-TOS systems to visualize and analyze data on a holistic, enterprise level.

Tideworks Insight’s key features include proprietary, robust Extract-Transform-Load (ETL) and Change-Data-Capture (CDC) processes that provide access to cleansed, organized operational data without compromise to the production

database. The platform enables access to both real-time and historical data for the creation of valuable KPIs and trend analysis; unlocks predictive and preventive analytics capabilities; and provides a powerful data platform that easily interfaces with the customer’s business intelligence tool of choice.

With its full deployment of Tideworks Insight now complete, MIT has been able to alleviate the troublesome performance impact on the production TOS associated with the previous data warehouse solution. Tideworks Insight has dramatically improved data accuracy and eliminated needless redundancy, provided improved ease of use, and the means for customization and flexibility in reporting.

“End users now have control,” said Caballero, “and can create and access reports without taxing others.”

MIT now has the advantage of knowing how its equipment and operators are performing and can better manage overall performance of the terminal. The operations team can focus and prioritize their efforts with automated, accurate and real-time reporting. Having truly accurate data enables the team to confidently share professional reports directly with customers, provide more specific data points and evaluate performance trends – a significant improvement for customer relations.

“Tideworks Insight has really made a difference in our operational efficiency and allows us to do more with our existing resources, which enables us to scale our operations,” concluded Caballero. “The major difference between Tideworks Insight and other solutions is that Tideworks Insight is specific to our industry, and it offers the flexibility to customize as we need. This is a tremendous advantage for logistics professionals at terminals worldwide.”

About Tideworks Technology

Tideworks is a full-service provider of cost-effective, reliable software solutions for growing terminal operations and shipping lines worldwide. The company helps more than 100 facilities run their operations more efficiently and profitably. From optimized equipment utilization to faster turn times, Tideworks works at every step of terminal operations to maximize productivity and customer service. For more information about Tideworks Technology, a Carrix solution, visit www.tideworks.com/.

Communiqué PR Contact Information

Colleen Moffitt

Main: 206-282-4923 x 113

Mobile: 206-979-4698

colleen@communiquer.com