

DIGITAL TRANSFORMATION OF BULK LIQUID STORAGE

Addison Armstrong from ClearDox looks at new trends in the industry

➤ **DIGITALISATION** has permeated virtually every sector of the economy, and has changed the way that companies understand inventories, manage supply chains, and utilise resources. Until recently, the bulk liquid storage industry stood out as a notable laggard in this transformation with many companies continuing to use outdated approaches in their day-to-day operations. That has started to change.

Tank storage operators, lessees and lenders have struggled with stale inventory data for years. Critical information is typically maintained and updated on complex spreadsheets, a manual process that is slow, error-prone, and insufficient for modern management reporting. Recently, the focus of industry leaders has been to develop automated systems that provide tank-level inventory data in as close to real time as possible. For example, a reduction in inventories from inexact estimates to a precise level that satisfies an operator's needs has a direct and positive impact on working capital requirements, and brings the operator closer to a 'just-in-time' model that maximises their efficiency.

SMART GAUGES AND SENSORS

This effort has been supported by the increasing sophistication of oil and bulk liquid storage terminals, and specifically the tremendous strides made in streamlining measurement through electronic gauges, advanced metering systems and other third-party systems. The proliferation of smart gauges and sensors has allowed for data to be automatically read and uploaded to a central database in the cloud in real time, supplanting time-consuming data entry and manual record keeping. The cloud-based approach provides operators with a 360-degree view of their operations at any time and from anywhere.

DATA AUTOMATION

Another trend is the rise of data automation. Terminal operators are working to set up automated data management protocols to optimise efficiency, safety and costs to better perform their role in the supply chain. Data automation facilitates better control



of a terminal's process management functions and the ability to monitor product movement in almost real-time.

THE CLEARDOX PLATFORM

ClearDox is a software as a service (SaaS) platform designed by commodities practitioners that provides data management and digital transformation solutions for commodity corporates and financiers. It automatically ingests, reconciles, and analyses data from multiple sources, helping enterprises in the bulk liquid storage industry accelerate their digital transformation by integrating the full spectrum of siloed, paper-based, and other external data into their operational workflow. Companies can then unlock improvements in productivity, risk management, and growth. The cloud-based platform requires little change to established workflows or data infrastructure.

CASE STUDIES

In one case, a global energy merchant uses ClearDox's document parsing and data reconciliation system to monitor its inventories in near real-time in more than 200 individual tanks at over thirty different locations. This has reduced need to quantify manual errors, data lag and hours of manual processing.

Similarly, a fuel terminal operator uses ClearDox to process bills of lading and freight payables to reconcile inventory in its terminal inventory system against third party inspection reports. This provides for quicker processing and settlement, especially for terminals with heavy truck or railcar activity. The cleansed data is available to be integrated into risk management and accounting systems, providing a more timely and transparent view of daily inventories than was possible in a manual process.

BETTER DATA

Automated document technology has helped to improve management reporting to be more timely, varied and pertinent. For example, automation is leading to better processing of documents and data in order to produce features such as live graphic or map-based displays of storage utilisation, and real-time data on inventory gains and losses – by both the terminal and individual tanks. This creates timelier and more actionable management reporting, and the scalability of these systems to process such a vast array of data also leads to greater personnel efficiency. Operations staff freed from mundane, repetitive data entry are now available to be deployed into other areas of the business where they can add greater value. Further, the automation of data can be used to evaluate how the business is actually performing and where there are areas for improvement.

The outdated and analogue nature of bulk liquid storage industry is slowly changing, and in the past couple of years, the technology has significantly improved, with more and more data becoming structured. However, there's still much room for improvement. Many providers still have a vast amount of unstructured data. Bringing this into a central management system has the potential to significantly improve efficiency and reduce costs. The industry needs to continue gaining efficiency, improve labour utilisation rates and allow for more pinpoint identification of operating distortions.

For more information:

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