# TANK STORAGE

**GREEN AND GOLD**

LBC Tank Terminals explains how it achieved EcoVadis gold status for its sustainability focus

**CHANGING TRENDS**

Bidvest Tank Terminals reveals more about its growing LPG storage strategy

**THE NEW NORMAL**

How BASF is now using both robotics and digitalisation to improve maintenance and inspection



Overview
ALL TANKS

TK-1
Crude Oil
5.493 m
10 m³/h
0.000 m
10986 m²

TK-130
LNG
16.123 m
0 m³/h
0.000 m
31224 m³

TK-41
Fuel Oil
15.358 m
0 m²/h
0.000 m
30716 m²

TK-42
Drip gasoline
19.707 m
-54 m³/h

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# INSTANT INVENTORY INSIGHTS, WHEREVER YOU HAPPEN TO BE

Per Skogberg from Emerson explains how mobile software can help to digitally transform operations by enabling immediate access to tank data, from anywhere

> **THE ABILITY** to instantly access up-to-date critical tank data is essential for an increasing number of job functions in the tank storage and terminals industry. Operations and maintenance personnel, whether in the control room or out in the field, must know the current status of all tanks and have a clear overview of every transfer happening at a facility, to help them take the right action faster. Finance departments need up-to-date inventory data to enable accurate invoicing, and sales and purchase order processing.

Tank data is also required beyond the boundaries of the plant, with management and corporate level personnel who are often situated at a different location needing current inventory information to support their reporting and business planning activities. The need for external access also extends to suppliers, customers, traders, product owners and logistic partners, all of whom can benefit from the availability of tank status and inventory information, wherever they are located and whenever they need it.

Unfortunately, it can be difficult or even impossible for the majority of these stakeholders to get a consolidated, up-to-date overview of tank inventory. All too often the information they need is locked within a legacy tank inventory system, which may only have a single local display and no integration with other control or management systems. Although some companies will have a networked solution, these can often be limited by hardware and bandwidth constraints, or are not designed to allow the sharing of data.

The first tank gauging inventory management systems used by tank terminals and refineries were developed more than 20 years ago. This software has continued to evolve, with functionality and useability having significantly improved over the years, but the traditional architecture has remained the same, which has limited wider access to the data. The software was principally developed to provide the operators, usually located in a central control room,



By making real-time data available to a wider range of stakeholders, Rosemount TankMaster Mobile facilitates better decision-making

with the tools they need to manage the tanks safely and efficiently. Inventory data will often be provided in weekly reports, but will not necessarily be available on demand. Newer tank gauging inventory management systems can integrate with a plant control system and other management systems, but many require extensive engineering to facilitate this.

## NEW SOLUTIONS
Consequently, organisations are seeking new, modern solutions that provide greater functionality, interoperability and secure access to stakeholders that need instant and up-to-date tank data.

Simultaneously, a new generation of operating personnel are comfortable accessing operational information on mobile devices such as smartphones or tablets, and are not willing to accept outdated and complicated software and IT solutions that do not support modern ways of working. Information needs to be available right away, whenever and wherever required.

Modern tank inventory management software provides powerful and easy-to-use solutions that collect real-time data such as level, interface level, temperature, density and pressure, and calculates volume and mass for inventory and custody transfer purposes. The software gives organisations an instant, clear overview of all their tanks, and the ability to quickly and easily drill down to detailed information, leading to better decision-making and increased operational efficiency and safety. To create extra value, mobile solutions such as the Rosemount TankMaster Mobile Inventory Management Software application from Emerson – an add-on

to the desktop version of Rosemount TankMaster software – can now provide additional benefits through mobility, sharing and networking.

Rosemount TankMaster Mobile gives users access to live tank data, providing a clear overview of all tanks at a facility, with the ability to quickly drill down to detailed information resulting in more efficient tank monitoring.

### SEAMLESS INTEGRATION

This platform-independent mobile solution has been designed to support large-scale operations such as refineries and tank farms, but also provides smaller users, with perhaps just a few tanks, with the immediate insights they need. The software seamlessly integrates with existing Rosemount TankMaster systems, making it very easy to deploy. Approved users can gain secure mobile access to live tank inventory data via all device types, including smartphones, tablets and computers, irrespective of the brand or operating system.

This mobile solution enables stakeholders to access tank data no matter where they are located, and to share the data both internally and externally. The application is responsive and switches automatically between desktop and smartphone or tablet versions. Further supporting ease of use, the application is optimised for touchscreens and the interface automatically adjusts to fit the size of the screen being used.

By making real-time data available to a wider range of stakeholders via smartphones, tablets and computers, Rosemount TankMaster Mobile facilitates better decision-making and improved operational efficiency and safety.

The software enables tanks to be organised into different customised groups, for example based on product or physical location. This supports efficiency by enabling personnel in the field to keep

track of tanks more easily. All the tank information is presented on adaptive tank cards, which give an immediate overview of critical inventory data and can differ in size, depending on which tank parameters the user wants to display. Mobile software also enables users to create watchlist groups by clicking an icon on the tank card to quickly and easily bookmark specific tanks of special importance that require close monitoring.

### CYBERSECURITY

Whenever wider access to operational data is granted, it is of the highest importance to not only have robust cybersecurity measures in place, but also powerful user management solutions. The latest mobile inventory management software is compliant with the International Electrotechnical Commission's IEC 62443-3-3 standard, relating to system security requirements and security levels. The design of these solutions is based on a three-tier network architecture, with dual-factor login to help ensure that only authorised users can access the system, and encrypted data communication between system components to protect against

unauthorised access. User management systems control access to specific tanks and data points, enabling different user groups to be created with different privileges.

With valuable tank data no longer siloed in the control room, inventory insights can be securely shared throughout the entire organisation and even externally.

### CONCLUSION

Empowering today's industrial workforce requires the right information to be delivered to the right people, regardless of where they are. The availability of mobile tank inventory management software enables the owners of tanks and terminals to digitally transform their operations by ensuring critical inventory data is instantly available to the people who need it, wherever they are located. Through no longer having valuable information siloed in the control room, inventory insights can be securely shared throughout the entire organisation and even externally. This provides the opportunity to increase efficiency, drive productivity and improve collaboration throughout the supply chain.

**For more information:**

This article was written by Per Skogberg, tank gauging solutions manager with Emerson's Automation Solutions business.

www.emerson.com/TankMasterMobile

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**02** Real-time data available to a wider range of stakeholders via smartphones, tablets and computers

**03** With tank data no longer siloed in the control room, insights can be securely shared in the organisation and externally