

SmartTAS

Terminal Automation Software

MHT Technology Ltd's Terminal Automation Software



MHT Technology Ltd

Digital Transformation with Human Design

+44 1748 828820

 www.mht-technology.co.uk

 sales@mht-technology.co.uk

SmartTAS is an intelligent Terminal Automation Solution which gives you total control over product movement and stock reconciliation.

Learn more about our scalable, open solution suitable for depots, terminals, and refineries.



Launched in 2011



Trusted by customers for 9 years



5 systems installed worldwide



Supports sites of up to 1,500 tanks

Overview

SmartTAS is an intelligent Terminal Automation Solution which gives you total control over product movement and stock reconciliation. Operates as standalone or in conjunction with other systems. Bulk liquid distribution whether by road, rail, air or water requires tight controls to ensure safe, secure and efficient operation. Every site has its own set of circumstances that brings with it unique challenges commercially, environmentally, and logistically.

A “one size fits all” approach to terminal is automation impossible. SmartTAS offers flexibility in its application, with support for many of the leading batch controllers, access control devices and identification method are available. Scalable to the size and requirements of your site we can offer Simple standalone station for small depot or a full client server system for larger sites or multiple operator stations.

Simple transaction logger for standalone loading computer to complete load scheduling system. Full stock management and reconciliation system available. Comprehensive Reports, BOL to ADR standard. SmartTAS enables total site control and overview, allowing operators to access details of all gantries, loading arms, vehicles, drivers, and product in use on-site.

Kiosks and queuing provide load planning and optimization features with automated notification by SMS and electronic document delivery making operations transparent to stakeholders. API's allow integration with ERP systems to allow an accurate exchange of transactions and orders, ensuring that the products dispensed are subject to financial controls.



Benefits



Real-Time and Historical Data

Records all vehicle and personnel interaction on site. Creates records of all loading transactions and provides a comprehensive range of customisable reports and graphs.



Automatic Reports

A wide variety of built-in reports can be customised. Automatically save, email or upload reports at specified intervals. SMS and electronic document delivery are available.



Security

Incorporation of mna functions designed to enhance existing safety and environmental processes. Driver and Vehicle profile configuration, with the ability to assign Card and PIN identification. Leak detection, unauthorised movement, overfill prevention and fire and gas detection.



Kiosk and Queing

To minimize the time the vehicles spend in hazardous locations in the site and prevent unnecessary traffic a queuing system is vital. Drivers enter the queue by setting up their load at an automated kiosk, before waiting to be called by the queuing system.



Configuration

Configurable to multiple workflow procedures. Interfaces to Book Stock Management system for reconciliation of stock. Interfacing with the Tank Gauging System (VTW) for real-time Physical Stock Data. As well as business integration and enterprise systems.



Integration

Integration to 3rd party systems is now possible through a new built-in OPC UA service. SmartTAS can publish live loading bay information, including transaction data such as driver names, order numbers, and vehicle registrations. Seamless integration of different vendor gauges such as Emerson, Honeywell and E+H.



Technical Support

We offer the fastest time to resolve any technical problems, with UK based in-house support you can speak to someone in minutes.

Technical support is available 24/7 and experts will guide you through both the software and the configured application as well as in-depth training at your site or ours.



Cost Savings

Better monitoring enables a reduction in inventory and prevents incidents to bring about a significant reduction in operational costs.

Software Features

SmartTAS has undergone a process of continual innovation over 11 years, often incorporating feedback and requests from the customers that use it. All our software is designed, developed, and tested in-house by a team of bulk liquid storage and handling experts.

The latest version of SmartTAS includes; Product UN Hazard Codes that are now fully editable, the ability to change the languages presented and add new hazard codes to fit their operations. Addresses are now first-class data items in TAS. Queuing and Kiosk, support for the Danload DL8000.

1 Orders and Transactions

An order represents a right to load for the vehicle and confirms an agreement between parties for the exchange of products. Orders can be simply input through the SmartTAS user interface, or for sites with a higher volume of orders they could be imported from an ERP system.

Sometimes these agreements can be very specific, defining the amount, the product, the compartment, the vehicle and the driver. Sometimes the order can be loose; a customer can take up to a maximum amount of product. SmartTAS can handle those and any cases in between.

On arrival at the site, the driver will select the associated order number and all load details are downloaded to the loading computer to enable the loading process. Order numbers are created ahead of time in TAS to control the quantity and product for each truck and compartment. This method provides a safe approach for the driver and reduces the risk of loading incorrect quantities or products into the wrong compartments.

Alternatively, loads can be created and authorised on demand by the terminal operators upon the arrival of a truck/driver, and all details are recorded immediately within SmartTAS.



Addresses are now first-class data items in TAS. A customer can have many addresses associated with it, each being ascribed a role, such as Billing Address, Delivery Address, Safety Contact Address.

SmartTAS provides a visual representation to the operator of all active data, displaying the loading process with all information associated with the selected order. A full log of all loading transactions is maintained by the automation system, and the Book Stock module gathers all input data for reconciliation of stock. Automatic BOLs are printed at a location on completion of a transaction.



2 Identity and Access Control

A cornerstone in terminal automation is to know who and what is taking or delivering product so that responsibilities are established at every step. SmartTAS can work with a range of RFID cards and access control units. Biometric checks can be added to further confirm driver's identities and prevent "card sharing". Details of drivers and vehicles can be managed through the SmartTAS application, or through integration using the API.

3 Checkpoints, Loading Bays and Site Locations

At the loading bay the identity of the driver and vehicle can be confirmed ensuring that the right products are dispensed in safe quantities to the vehicle. SmartTAS can check the capacity of the vehicle compartment to prevent overfilling and check the order quantity to prevent oversupply. Inline blending and additive injection are also supported, allowing a diverse range of products to be delivered from a site to order. Further controls and checks can be added using checkpoints to ensure procedures such as bottom drain and seal fitting are carried out. SmartTAS logs the vehicles' progress through the site locations.



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Our continued quest to bring the world's loading bay equipment into the SmartTAS software sees the addition of seal details being entered at the bay, and support for the Danload DL8000 in a multi-arm deployment. When things go wrong at site, SmartTAS now allows operators to prepare documentation for vehicles that have been manually "topped off" or moved to another loading bay to complete a load.



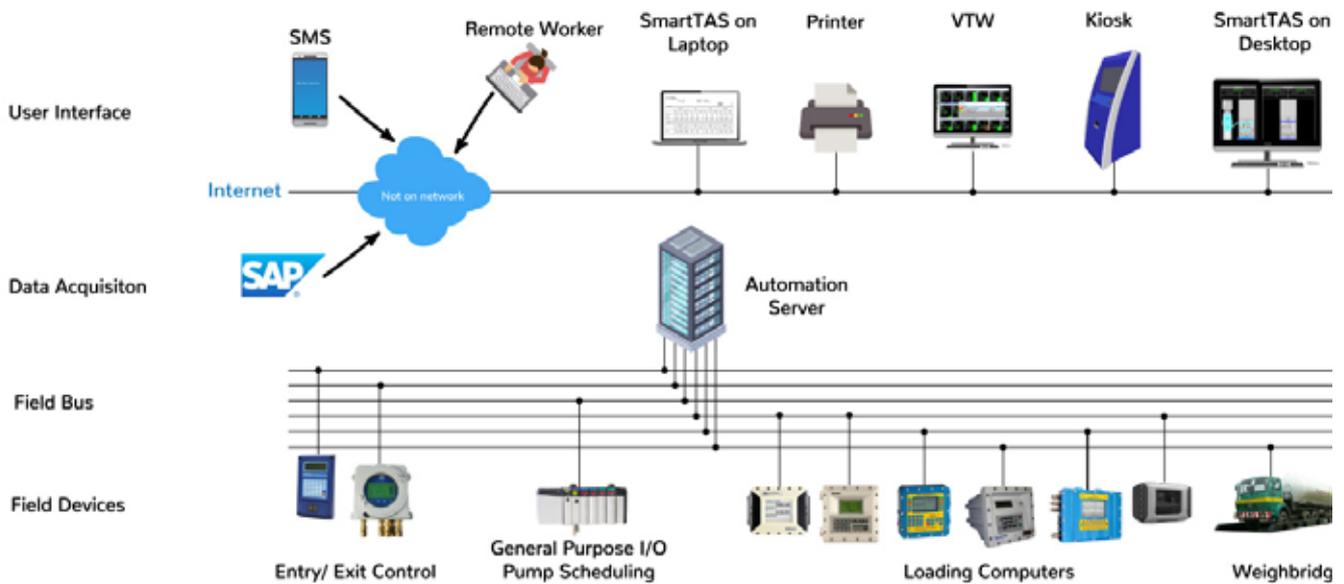
5 Queuing

To minimize the time the vehicles spend in hazardous locations in the site and prevent unnecessary traffic a queuing system is must. Drivers enter the queue by setting up their load at an automated kiosk, before waiting to be called by the queuing system. A queue status screen in a waiting area ensures that people are kept in a safe location and only venturing on to the site when needed.

System Architecture

The system can be provided as a simple standalone station for small depots or as a full Client/Server system for larger sites where multiple operator stations are required. In most cases a high availability back office server interfaces to the field devices and hosts the database. Within this configuration, the operator stations act as clients to the server.

- Standalone station
- Client-Server system
- Distributed multi-site systems
- Modbus and OPC interfaces to sitewide distributed control systems and other business systems
- Fieldbus and device-independent



PC Requirements

Operating system:	Windows 10 Windows Server 2019
Platform:	Microsoft.NET Core
Database:	Microsoft SQL Server
Disk space:	Minimum 80 GB
Memory:	Minimum 8 GB
Processor:	2 GHz Dual Core Processor
Resolution:	1920 x 1080
Compatible load computers: (not limited to)	Avery-Hardoll, Contrec, Danload, Isoil, Smith Meters, Accuload
Core functionality:	Product Transactions, Orders, Products, Drivers/ Personnel, Vehicles, Companies, Gantry, Configuration, Device/ Instrument Configuration, Kiosk/ Queuing
Synchronisable data with Tank Gauging System:	Tanks, Products, Tank Calibration, Tables, Physical Stock