T-MAC Plus technical solution

Architecture

- Includes: operational engineering, operators, servers, printers and communication with third-party applications.
- Flexible: it is possible to provide in parallel with ERP,欢、SCADA, and PCS.
- Scalable: it is possible to start from one simple plant with one central dispatching, grow to manage a set of complex plants with one central dispatching.
- Expandable: as terminal automation contributes to operational success in the company, the number of products handled may increase, the number of parties involved in handling the products may grow. The terminal management system procedures involve processes such as the access control, loading, printing, product movement, balance, inventory, ERP Connection or site exit.
- Graphics
- Multi-operator management
- Product balance
- Self-consuming
- Hand held functionality
- Automatic tank farm control
- Additive in loading arm / in line
- Blending in loading arm / in tank / in line
- Sealing
- Automatic bay / berth allocation
- Kiosk functionality
- Inspections
- Access control
- Receipt / dispatch by pipeline
- Receipt / dispatch by barge
- Receipt / dispatch by truck
- ERP Connection

Focus on improving the data management T-MAC Plus, includes communication with Enterprise Resource Planning (ERP) systems. This is important when it comes to minimize accuracy error in execution and minimizing damage.

Data management

Helping to human accuracy speed in execution and minimize damage.

Controller system

When different facilities have to be communicated to or from central dispatching, this structure can be managed with T-MAC Plus, ensuring the central location and execution of orders from the different facilities.

Maintenance

T-MAC Plus provides a set of tools to enable the operator to work on the process and data. The forms are configured according to the functionality required in access control, inspection, loading, selling, entry, etc. The forms can be configured and displayed according to any process using the tool "Terminal Management System solution for oil, gas and chemical industries". The solution to achieve success in your process

ABB is provider of Terminal Management System with a solution including: T-MAC Plus, DCS, F&G and ESD. Depending on the project, however ABB can offer a total solution of software and hardware named T-MAC Plus, created as a result of more than 20 years of experience in the field and our knowledge in automation systems for oil and gas businesses.

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Traditional, terminals were manually operated but with new technology available now is possible to increase efficiency, reliability and availability. Today, terminals automate the terminal operations, from access control to loading, printing, product movement, balance, inventory, ERP Connection or site exit.

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Provide a complete automation solution in your terminal facility with T-MAC Plus

- **Receipt / dispatch by rail wagons**
  - This module manages the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by rail wagons.

- **Receipt / dispatch by truck**
  - This module manages the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Additive in line**
  - This module manages the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Additive in loading arm**
  - This module manages the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Additive in loading arm**
  - This module manages the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Blending in loading arm**
  - This module manages the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Self-consuming**
  - This module manages the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Blending in in tank/in line**
  - This module manages the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Product reconciliation**
  - This functionality allows the terminal to calculate the quantity based on the changes in product characteristics.

- **Product inventory, balance and stock reconciliation**
  - The module manages the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Custody transfer certificate**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Calculation by strapping table**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Movements scheduling**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Venting**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Automatic bay/berth allocation**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Kiosk module**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Handheld functionality**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Access control module**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **T-MAC Plus**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Monitoring of the process, generation of the bill of lading and other required documents**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Configuration and communication with the electronic preset to be informed of product quantities, order handling and physical checks of the vehicles (trucks, trailers, rail wagons or barges) must be required by the terminal**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **(calculation of balance)**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **In line: Additive process during product receipt.**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **in tank: The data to verify that the inspection list**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Bar code reader communication**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **In loading arm: During loading process verifying the physical interlocks (overfill protection signal, grounding and arm position) as well as the generation and communication with the electronic preset to be informed of product quantities, order handling and physical checks of the vehicles (trucks, trailers, rail wagons or barges) must be required by the terminal**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **After loading process, truck is one of the features included in T-MAC Plus.**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Provisioning of the loaded truck.**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Access Control module**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Operator command**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Interactions via**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Kiosk module**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **Access control module**
  - This functionality allows the terminal to manage the tasks involved in the process starting with the verification of the order, the loading and unloading of the product by truck.

- **T-MAC Plus**
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