

*Master Terminal is for growing and ambitious ports and terminals*

Master Terminal is a comprehensive, easily configurable and fully integrated terminal operating system (TOS) that provides a secure, real-time view of information and activity across the enterprise. It is designed to cater for all cargo types. Mobile applications running on vehicle-mounted and handheld RDT devices allow operators to record activities and information from any work area within the terminal. Multiple sites, terminals and sub-terminals can all be managed within a single database.

Master Terminal is a robust and stable solution capable of forming the core of your information systems. It runs on standard x86 Intel-compatible server hardware and Windows operating systems and supports a wide range of mechanisms for interfacing to third-party systems.

**Master Terminal has solutions for:**

- General cargo operations
- Container operations
- Harbor management systems

### Architecture

Run Master Terminal on standard hardware as it easily scales to fit your operation. One system covers your whole port, in real time, for everyone.

- One workstation application and a companion mobile app suite unite seamlessly to give your entire enterprise real-time access to information.
- Industry standard, distributed client-server architecture can be scaled horizontally and vertically to the size of your operation.
- Windows/Intel servers and workstations are all you need—no specialized or expensive hardware.
- A high-performance database with enterprise-class resilience and scalability, bundled with the product, guarantees the ultimate application performance.
- Thin clients and a Rich Internet Application are fully integrated, so you get tailored, direct access to the system.

### Multi-terminal/sub-terminal

Operate multiple terminals, and configure sub-terminals, within a single database. See your operations the way you want to.

- Handle multiple, geographically remote container and general cargo terminals with one database.
- Individually configure each terminal's security, reporting, invoicing, language and radio data terminals (RDTs).
- With the right security configuration, integrate multiple terminals to unite data and reporting, issue management, and platform support.
- Operate inland depots as terminals.
- Configure sub-terminals within main terminals for administrative, electronic data interchange (EDI), or operational purposes—on-site empty container depots and shared use operations, for example.
- Share cargo-handling equipment seamlessly between a terminal and its sub-terminals.

### Access control and data security

Tailor access for every user, and log every data change.

- Control access to the system with unique credentials (username and password) for each user.



- Control data access (for both internal and external users) with sophisticated role and sub-role security.
- Use permissions to control exactly what data each user can view and update - for every user on every screen. External users (such as truckers, consignors, consignees, shipping companies, customs and Government officials) have direct access to only the data they are authorized to see.
- Securely store data within a high performance database and ensure enterprise-class resilience and scalability.
- Record all data changes (and the user making them) in audit logs stored within the database. Logs can only be seen by users with the appropriate access.
- Export data to an SQL server for archiving or data warehousing.
- If the worst happens, depend on full disaster recovery from built-in replication technology and Master Care's expertise.

### User interface

Quickly learn a familiar system, then customize it for each user.

- Windows-based graphical user interface (UI) makes for a familiar and intuitive experience, configurable for each user.
- A rich set of tools makes it easy to navigate, search, filter, and view information.
- Powerful and intuitive Rich Internet Application lets external customers view and update selected information, drawn from the database in real time.
- Navigator provides instant access (via a familiar Windows Explorer-style list) to all functions and data that the user may access.
- Feature-sensitive menus open up functionality throughout the system.
- Menus and toolbars are customizable for each user.
- Search/inquiry form allows advanced searching, using multiple or partial criteria.
- 'Quick Find' feature lets users quickly open forms (screens), print reports, and find common objects like the yard locations, terminal areas, the latest visit of a truck, active booking or releases, on-site cargo, or pre-notified cargo.
- A Column Organizer on every screen that includes data tables saves each user's choice of fields, ordered however they like.
- Intelligent displays present all cargoes and all methods of transport (road, rail, and ship).
- Graphical views of yard, ship, rail, and truck layouts let you visualize planning and operations.
- Powerful drag and drop tool lets users move single or multiple items between lists and graphical views.
- Applications for handheld devices bring the system to everyone who needs access.
- Customizable warning and error alerts get important messages conveyed the way you want them.
- Online help in PDF and HTML formats.
- Multi-lingual support uses each machine's Windows locale to select a default display language. Users can customize translations for selected texts.



### Core

Support all your port's cargo types, equipment, planning processes, and reporting.

- Full cargo support covers conventional sized containers (20' and 40'), specialized sizing including 30', 45' and 53' containers, break bulk of all types, motor vehicles and bulk, steel and forest products, rolling cargo, and all local general cargo varieties.
- Support for equipment includes chassis, underslung and nose mounted generators, cassettes, MAFIs, and trailers.
- Over-dimensional cargo support crosses road, rail, ship and yard.
- Full support for IMDG hazardous cargo segregation across road, rail, ship and yard.
- Highly configurable reporting and data queries covers all cargo types.
- Data export is available in multiple formats, both standard and user-defined.
- Advanced notification engine lets users decide which notifications to receive, and create custom notification events.
- Data access is instantaneous, for all data at all times. As the database size increases. Performance is not affected.
- Full audit trail and exception handling capabilities allow configurable warnings and error reporting.
- Planning is supported whether manual, semi-automatic or fully automatic.
- Fully automatic background task scheduler runs reports and scheduled tasks.

### Electronic data interchange (EDI)

Automatically process EDI messages in 80+ formats, however they're sent or received.

- EDI processing is fully integrated into the system.
- Handle both inward and outward EDI messages with fully automated, unattended background processing.
- Resolve message translation errors and reprocess failed messages through a simple user interface.
- Handle more than 80 EDI formats, including popular EDIFACT and X12 formats. EDI formats are available for bay plans, ship manifests, stowage advice, bookings, release requests, discharge and load lists, and more.
- Send and receive EDI messages via email and FTP (push and pull), and receive messages via web services.
- Automatically handle EDI messages in emails (as text or attachments).
- Use the transformation and translation engine to automatically switch between external codes (recognizable to other parties) and internal codes (recognizable to Master Terminal and your port).
- Define custom inward and outward EDI messages in CSV or XML format, and map the data to standard messaging structures, with a user-definable processing engine for EDI messages.
- Have alerts escalated to nominated people whenever automated monitoring detects EDI transmission or reception errors.
- Configure cut-offs for EDI processing.
- Group EDI messages to multiple recipients.

### Pre-advice

Know what's coming in and when, and control the movement and splitting of cargo within your port.

- Receive pre-notification of cargo arrivals, for all cargo types, with arrival time windows.
- Let customers pre-advise the arrival of cargo to the terminal via desktop thin client, Rich Internet Application, or EDI messages.
- Booking tools that extend visibility throughout the supply chain.
- Link bookings to empty container releasing.
- Split and roll bookings between voyages.
- Respond to customs and other stops, and shipping line instructions, with cargo releasing tools for containers (full or empty) and other cargo types.
- Release cargo based on bills of lading.
- Manage your stock of empty containers.
- Generate simple PIN numbers to expedite containers and cargo through the gate.
- Link to the integrated kiosk for rapid gate exchanges.
- Set security level controls for trucks to use PIN numbers or release references.
- Register work requests for cargo handling, stuffing and unstuffing, or inspections.

### Gate operations

Manage gates in real time on touchscreen and mobile devices, controlling and monitoring truck and cargo movement to increase efficiency.

- Integrate gate operations with pre-advice processing.
- Define multiple gates and configure process flow for interchange lanes, boom gates, trouble resolution, RFID tag readers, and administrative and physical cargo checks.
- Instantly control and monitor gate flows.
- Maximize user productivity with responsive gate entry forms. All data is validated at entry time.
- Use PIN and gate touchscreen kiosks for paperless, rapid throughput.

## » MASTER TERMINAL OVERVIEW

- Verify truck driver's identification, cross-referenced with vehicle registration and transport company.
  - Integrate Master Terminal with your truck visit appointment booking system.
  - Get real-time updates on all truck processing within the terminal.
  - Keep detailed information about vehicle visits.
  - Customize cut-offs at multiple levels of cargo, operator, status etc.
  - Easily and accurately model cargo movements through the terminal.
  - Monitor and analyze detailed KPIs including dynamic turn times and configurable waiting alerts.
  - Print out gate interchange receipts for trucking operators, if needed.
  - Prevent or permit different levels of cargo behavior with configurable stops (holds) for every purpose and cargo type.
  - Automate the application and removal of stops by EDI input.
  - Speed up inter-terminal cargo transfers by allowing rapid access with no data entry.
  - Use handheld applications for detailed and configurable cargo checking.
  - Record digital images of cargo in support of damages, including from mobile devices.
- General cargo/container freight solutions (CFS)

### General cargo/container freight solutions (CFS)

Manage containers, bulk, break bulk, logs and other general cargo through task like warehousing, stuffing and unstuffing, and more.

- Manage general cargo as a core component of the software.
- Manage containers, break bulk, bulk, project cargo and logs all with similar screens, forms, and activities.
- Define general cargo (including how it is packaged, handled and stowed) and work against bills of lading (BOL) and bookings.
- Manage general cargo tasks like packing and unpacking into containers (stuffing and unstuffing), MAFI roll trailers, consolidation, and breaking down.
- Hold cargo in stock on behalf of a customer (warehousing).
- Record information including BOLs, manifests, OS&D reporting, packing, and delivery orders.
- Integrate barcode scanning and label-printing tools.
- Use a handheld application suite for all CFS and general cargo operations to landside or shipside.
- Automate your planning.
- Process overages, shortages, and damage against manifests and BOLs, and run reconciliations by many different parameters.

- Automatically generate invoicing data during cargo handling activities.
- Store all information and history as long as it is required.

### Roll-On/Roll-Off (RORO)

Handle RORO cargo the same way as other cargo, i.e. similar screens and processes are used.

- Highly detailed definitions of decks including vehicles lanes, deck layout, ramps, pillars and container twistlock grid. Also weight limits, height limits, stack limits, etc.
- Detailed cargo stow layout on each deck including containers, vehicle lanes and general cargo polygon areas.
- Detailed discharge and load planning and jobs resulting in full and ordered operations.
- Empty release request to RORO decks for empty containers.
- Full graphic display of each RORO deck at all stages of operation.

### Bulk

Handle and track bulk cargo types such as coal, woodchips, and grain by weight and volume.

- Allocate the bulk cargo a cargo ID by either weight or volume.
- Track cargo moves, loads and inventory.
- Maintain a total of how much product makes up the bulk cargo (stowage factors, density and conversion factors).
- Split and merge the bulk cargo.
- Aggregate bulk cargo to units or deaggregate from units to bulk cargo.
- Report on bulk cargo.

### Rail

Manage and track train schedules and wagon fleets and easily share the right data with train companies.

- Control all weight and dimension rules for rail wagons.
- Handle 20', 30', 40', 45', and 53' containers.
- Utilize full train scheduling.
- See graphical views of trains and rail areas for planning and operations.
- Complete planning before trains arrive - both inbound and outbound rail planning.





- Automatically plan train load and discharge.
- Control operations in real time.
- Support RDT and wagon validation.
- Split, resequence, and recombine train rakes.
- Directly transfer cargo between trains.
- Create invoices for cargo and user-configurable train events.
- Use electronic data interchange (EDI) to exchange messages with train companies.

### Logs

Track and manage logs as an individual cargo type.

- Treat logs as an individual cargo type with their own defined rules and characteristics.
- See a graphical view of terminal locations and areas, including current stock levels.
- Define log areas and log rows within the terminal.
- Define rows by supplier, specifications (species, grade, type, and treatment), and length.
- Dynamically resize and gap-manage storage areas visually, to make best use of log stowage areas depending on log sizes and characteristics.
- Use unique identifiers (log tickets) to individually track logs from arrival to load out.
- Meet Forestry Stewardship Certification (FSC) requirements with log dockets that record each log's full history, including

carrier, vehicle, driver, species, grade, log type, treatment, length, scaling, weight, supplier, consignor, logging contractor and gang, felling date, forest, compartment, stand, FSC certification, loading contractor, errors, and yard location.

- Receive and release logs via road, rail, or ship.
- Scan logs with a handheld device when they enter the port, prior to being unloaded.
- Individually barcode, measure, grade, and stack each log.
- Track logs and log stocks in terminal.
- Transfer logs from one location to another, by log ID, docket, or location.
- Define lots based on customer, discharge port, supplier, and log specs.
- Allocate log rows to lots, and allocate lots to a voyage.
- Check and correct scaling data. Calculate mean small end diameter (SED) and Japanese agricultural standard (JAS) log volume.
- Reject, reinstate, regrade, disassemble (cut into smaller logs), and reticket logs, retaining historical information.
- Handle, saw, and pulp logs.
- Report log receipts, log stocks, log releases, and historical analysis based on the forest management data collected as part of the log handling process.
- Plan voyages.
- Scan logs shipside while they're loaded or unloaded.

### Machinery operations

Assign machinery to tasks easily, track every job, and build a full audit trail.

- Configure each machinery item for lift and transport capabilities, including the differing cargoes that it may handle.
- Fully support twin and dual-lift container handling equipment, including twin-lift-on-the-fly automatic planning.
- Manage work queues in one place, and instantly assign equipment using familiar Windows techniques.
- Audit all activity with records of equipment job allocation, pickup, transit, and drop off times for each move.

### Radio data terminal (RDT) operations

Use mobile and vehicle-mounted technology wherever your cargo goes, with Wi-Fi support and user-by-user control of the system.

- Full support for handheld and vehicle-mounted radio data terminals (RDT) for all machine types, in the yard, on ship, and within warehousing and general cargo operations.
- Supports any mobile device running a supported Windows Mobile operating system when using Wi-Fi or cellular connections.
- Support for RDT devices from established suppliers such as Teklogix and LXE.
- Touch screens and graphical user interfaces in cargo handling equipment provide graphical representation of truck, wagon and yard locations for both pick up and drop off.

- Screens configured to maximize space usage.
- Role-based security allows system administrator to configure which RDT device functions are available to each handheld application user.
- Supports multiple languages, as selected by the end user.
- Handheld RDT application supports:
  - Loading and unloading cargo to or from ships, vehicles, or rail wagons
  - Packing and unpacking containers
  - Maintaining the stops, to-do tasks, or availability grades of cargo items
  - Moving cargo within and between terminals
  - Checking cargo at the gate and recording damage
  - Managing reefer containers, connections and temperatures
  - Maintaining voyage and machine delays
  - Inquiring about cargo items or reefer containers
  - Raising alerts
- Vehicle-mounted RDT application supports moving cargo items, and maintaining the stops, to-do tasks, availability grade, seals, or damage to cargo items.
- Tablet-based Tallyman application confirms the final stow of loaded cargo and cargo discharge.

### Yard operations

See cargo in real time, organize and audit all operations, and give everyone the terminal view that they need.

- Define terminal and yard areas for all types of cargo and operations (and, if things change, redefine locations while they are in use).
- Create user-specific terminal view layouts, letting each user see the areas that matter most to them.
- Let the advanced yard allocation manager automatically plan yard locations for any operation (rail, road, ship, and, internal housekeeping) and all cargoes.
- See graphical views of all container and cargo storage areas, and drag-and-drop between them.



- See all cargo in real time, using current, short-term, or long-term planning modes.
- Full support for labor working within site, labor on block lockouts integrated with warning lights in terminal, and automatic distribution of alerting messages to all machines with RDT support.
- Let users create comprehensive 'to-do' tasks on containers and cargo, define transactions for invoicing, and link resources to transactions.
- Automate overstay move planning and housekeeping within terminal.
- Use handheld device applications for all reefer connection and temperature monitoring.
- Prioritize, categorize, and schedule your next day's work.
- Support all methods of operations, including mixed, RTG, RMG, straddle carrier, forklift, top lift, side lifter, wheeled chassis, and MAFI roll-trailer toolset operations. Load up to four containers onto an IMV.
- Support twin lifting operations on container cranes, straddle carriers, and forklifts.
- Support multiple and automatic machine hand-overs for every type of terminal operation.
- Support interfaces to in-machine weighing devices, and directly record container weights via the RDT application.
- Pool equipment dynamically across multiple working queues.
- Fully audit all planning operations, including automatic planning
- Use highly customizable, high performance filtering to specify hundreds of cargo attributes, variable by cargo type.
- Quickly find the right data with the 'Inquiry' function and a configurable display for popup information.
- Store transactions for as long as cargo is retained in the system (database sizing applies), without impacting performance.
- Handle empty containers using top picks and forklifts.
- Fully support empty container yard activities such as fumigation, inspection, pretripping, simple repair, probing, and washing. Define activities and prevent revenue leakage by integrating them with invoicing.
- Use soft stops (holds) to prevent or allow cargo movements within the yard, or release from the terminal.
- Place soft stops on cargo via the web, or set automatic stops as activities (for example, ship discharge) occur.
- Handle rail with integrated drag-and-drop planning.
- Support CFS packing and unpacking for general cargo operations.
- Fully manage bookings, with projection and automated warnings when yard allocations begin to overflow.
- Track KPIs on yard operations.

### Ship and voyage operations

Bring your yard and vessel plans together, define vessels, see and control operations in real time, and report and compare a full history of vessel visits.

- Make fully-informed decisions with ship and yard operations integrated in one seamless system.
- Define vessel structures, or make one-off changes, with tools including a quick-build wizard.
- Automated balanced crane splitting and progress checking.
- Quickly move jobs between crane resources using full job controls.
- Track crane progress and control with graphical displays.
- Flexible graphical interfaces for KPIs, current or proposed load and discharge planning, electronic data interchange (EDI) cargo profiles, and EDI bay plans for all cargo types.
- See cargo placement in real time.
- Allocate loading and discharge of containers to cranes and machinery manually, semi-automatically, or fully automatically.
- Fully support twin lifting, including automatic planning.
- Full support for ship berthing reversal for planned cargo.
- Judge a plan's quality by viewing a yard analysis plan once a vessel has been planned.

- Control vessel operations in real time, including forecasting at both the vessel and crane level.
- Handle transshipment cargo, double lift restow, shift on board, hatch lid moves, lashings, personnel cages, and twistlock bins.
- Handle detailed LOLO and RORO planning and operations.
- Configure and automate cargo stops.
- Automatically compare load and discharge lists to onsite cargo, with configurable matching to any external data input.
- Insert and record user-configurable delays in operations performance reporting.
- Plan break bulk, bulk, and general cargo in full detail.
- Aid management decision-making by monitoring vessel operations performance in real time.
- Compare historical KPIs for previous vessel visits across an unlimited time period.

### Harbor management

Plan and berth all vessels, and take care of everything from tides and tugs to gangs, invoicing, and consumables.

- Plan vessel visits, berthing and associated services.
- Schedule vessel moves between terminals, tugs, pilots, and labor gangs.

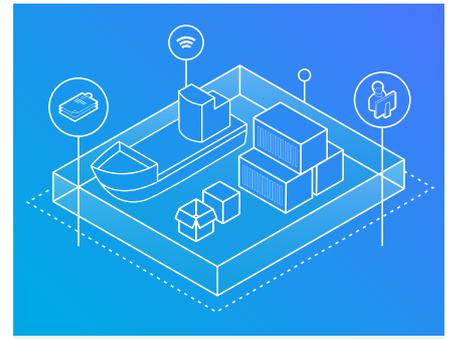
- Provide and invoice for water, power, and berth shifts. All resources are user-configurable.
- Use full tidal modeling for under-keel clearance, flow and movement windows across complex navigational channels.
- Handle all vessel types, not just cargo vessels.
- Automatically charge for all harbor management activities, consumables, and resources (like tugs and pilots, power, water, bunkering, and garbage facilities).
- Configure charging to suit your operation.

### Invoicing

Configure and track charges and invoices for every cargo event, handling flexible tariffs and rates, multiple currencies, cash payments and integration with standard invoicing systems.

- Charge for all cargo and vessel activities automatically and in real time with fully configurable invoice creation.
- Drive invoices directly from operational transactions, reducing operational leakage to an absolute minimum.
- Charge for yard storage automatically, calculating costs on a range of criteria from number of items on site through to elapsed time evaluation.
- Automatically charge the right party for yard storage as cargo changes owner.





- Manage customer and rate tables (including service rates, alliances, special rates, percentage-adjustments, multiple currencies, and taxes) in the flexible tariff engine.
- Track and trace any invoice back to its source.
- Output simple invoice data (for transactional activities only) or a full, auto-emailed invoice.
- Handle cash payments and cash-only debtors.
- Integrate with standard invoicing systems including SAP, Microsoft Navision Dynamics Nav, Oracle, and JDE.

#### Integration and system interfaces

Integrate Master Terminal with interfaces into your general ledger system, SQL servers, port hardware, peripherals, and more.

- Mechanisms for interfacing to third-party systems include EDI, file export, web services, SQL and real-time TCP/IP connections.
- Over 80 standard EDI formats supported, plus you can define custom EDI message formats.
- Interfaces to general ledger systems such as SAP, Microsoft Navision/ Dynamics Nav, Oracle, and JDE.
- Exposure of selected functionality via XML SOAP web services.
- ODBC (open database connectivity) access to selected database entities, via relational views.
- Real-time TCP/IP connections to REFCON, ITS two-way communication through to mobile hardware, voice recognition (TCP/IP Listener), RFID readers, boom gates, weighbridges, block lighting hardware, RTG GPS twistlock telegrams (from the PC in the machine cab), and real-time location systems (RTLS).

- Support for peripheral devices including printers, barcode scanners, radio data terminals (RDTs), in-machine electronic scales, and external gate systems.

#### Reporting and data extraction

Export data in flexible formats, or generate and share reports with Master Terminal.

- Use powerful and flexible built-in reporting to create an extensive range of reports and save them in file formats including CSV (for spreadsheeting), PDFs, XML, or HTML.
- Meet specific reporting requirements with a customizable report writing tool.
- Keep reports secure with user-by-user access rules.
- Integrate reports into users' menus so they're always easy to find.
- Easily graphically configure, export, import, and share report structures.
- Automatically schedule, bundle and send reports to email recipients.
- Track KPIs on activities like yard operations.
- Run reports from mobile devices (within system permissions).
- Extract transactional KPI data - any process that includes a transaction leaves a data trail.
- Extract data in CSV format from almost any table or list.
- Export data to an SQL server for archiving, data warehousing, or processing by other systems.

### About Master Terminal from Jade Logistics Group

Designed to handle all cargo types in one integrated system, Master Terminal is the world's leading terminal operating system (TOS) for mixed cargo ports.

Master Terminal is licensed at over 120 terminals worldwide, from vehicle terminals in Italy to steel terminals in North America.

Implementation is the key to success, and our implementation record is second to none in the industry. Our proven and robust methodology, partnership approach, thorough training and unrivaled implementation timeframes deliver tangible results fast.

Jade Logistics has been designing, building, and supporting innovative logistics software since 1993. Our experienced people understand the global logistics industry and are the foundation on which we build long-term relationships with our customers.

We have offices in New Zealand, Australia, USA, the Netherlands, the United Arab Emirates, and Indonesia.

For more information, visit us at [jadelogistics.com](http://jadelogistics.com)