



NS5 ENTERPRISE



**ASSET
MANAGEMENT
SOLUTIONS**

A Trusted Service Provider

ABS Nautical Systems, the software development division of ABS, designs applications to meet the needs of the maritime community. ABS Nautical Systems' goal is to provide solutions and services that enable its customers to attain operational, safety and technical excellence across their organizations. This is achieved by following a simple set of core values:

- **Quality:** continually strive for excellence
- **Innovation:** provide flexible solutions in an ever-changing business environment
- **Integrity and partnership:** endeavor to build long-lasting relationships with clients by providing value-driven consulting and services

For more than a quarter of a century, ABS Nautical Systems has been one of the leading providers of integrated asset management software delivering solutions to owners and operators to efficiently keep their assets maintained, supplied and staffed.



Introduction to NS5 Enterprise

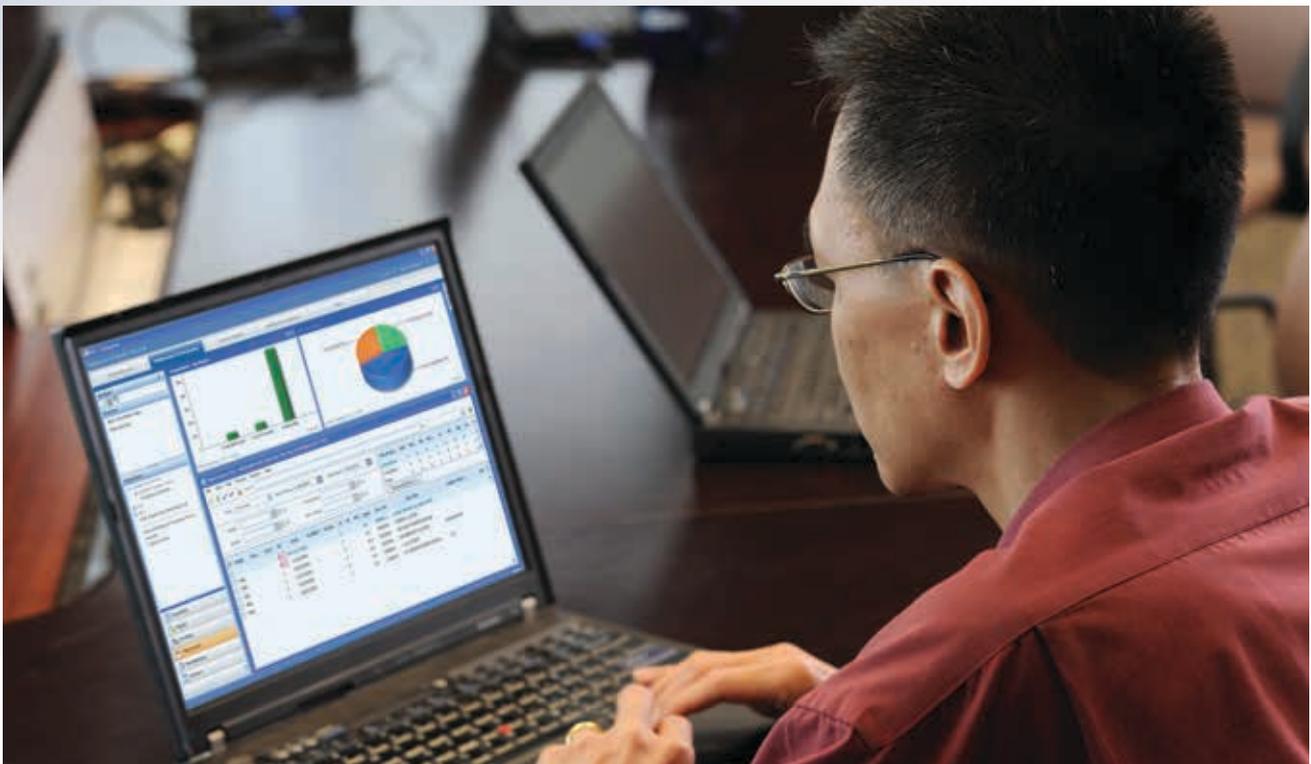
A comprehensive, yet flexible software solution, NS5 Enterprise has evolved for over 25 years to meet the ever-changing demands of the maritime industry. Today, it is a fully integrated information network that handles the primary functions of operational management – maintenance, supply chain, workforce, environmental and safety.

NS5 Enterprise gives owners and operators of vessels and offshore assets the capacity to achieve enhanced efficiency and promote cost effectiveness. Developed with the specific needs of the maritime industry in mind, the comprehensive suite of software programs provides all levels of the organization the tools they need for the superior examination of key performance indicators and maintenance diagnostics.

Users can accomplish a variety of tasks that include tracking and purchasing inventory, evaluating costs and overdue jobs, conducting audits and managing additional assets without increasing staff. Users can select components that meet their current requirements and incorporate other modules later as needed.

NS5 Enterprise offers owners and operators a software solution developed by marine and offshore professionals. Enhancements are continuously made based on the input from users and ABS personnel. NS5 Enterprise is the only fleet management software tool available with fully integrated class and operational functionality.





More Than Just Software

NS5 Enterprise provides access to business critical data. According to a global survey of C-level executives, more than 50 percent were overwhelmed by too much data; 60 percent have wasted time reviewing incorrect data; and 25 percent have actually lost business opportunities by not having access to the right data.

Through the use of NS5 Enterprise, owners and senior management have access 24/7 to the latest real-time operating information that is driving their business. This element of the software presents customized dashboard views of company or user-defined key performance indicators that include fleetwide access to the latest maintenance, supply chain, safety, environmental and personnel data.

The ABS Nautical Systems Difference

- **Intelligent development:** decades of marine and offshore experience are continuously incorporated into the software
- **Unmatched flexibility:** the system can be customized with an extensive library of role-based access controls and configuration options
- **Unique integration:** the platform streamlines workflows and optimizes use of personnel time
- **Proven service:** thousands of successful implementations worldwide
- **Dedicated support:** all services are provided by employees, not subcontractors

NS5 Enterprise offers advanced usability, reporting, speed and overall performance. It provides users the ability to minimize downtime by monitoring maintenance trends; streamline purchasing, budgeting and inventory processes; increase administrative efficiency, reduce risks through simplified safety management, and streamline data collection and reporting for environmental regulatory requirements.

Reporting Options: Pre-packaged & On Demand

Reporting is an intrinsic part of the NS5 Enterprise application. Each module of the application features pre-packaged reports both at the vessel and at the fleet level.

NS5 Enterprise reporting:

- Includes more than 250 customizable stock reports from port clearance to financial cost analysis
- Allows users to filter data required for reports through a comprehensive search feature
- Interfaces with corporate business intelligence tools
- Generates reports in an Adobe Acrobat® PDF or another report format
- Prints or exports general query search results in various formats
- Provides for custom report generation through the On Demand Reporting module

On Demand Reporting is an optional browser-based application that allows users to quickly and easily generate custom reports from data within any NS5 Enterprise module. This tool taps a separate reporting database, safeguarding company data. Supporting operational and technical staff as well as senior management, this tool reduces the burden and costs often placed on information technology (IT) staff and can help to eliminate the need to outsource custom report development.

Realize the Benefits

- Access real-time data
- Customize dashboard views
- Capability to drill down to specifics
- Streamline reporting
- Lower initial and ongoing costs
- Integrate with ABS class
- Reduce unplanned maintenance
- Evaluate costs across an entire fleet
- Shorten procurement cycles
- Trim down communication costs
- Demonstrate compliance to standards
- Invest in minimal training





A Community of Industry Partners

The NS5 Enterprise suite of software modules is in use on more than 4,000 vessels operated by more than 300 companies worldwide. Developed on a flexible configuration platform, NS5 Enterprise offers operators lower costs, improved support and reduced administration of a standard off-the-shelf system while still having the ability to tailor critical aspects of the software to meet their business requirements.

NS5 Enterprise offers solutions configured to meet the unique fleet management requirements of the marine, offshore, workboat and government market sectors. Regardless of the type of vessel or unit operated, NS5 Enterprise can make asset management easier and more efficient.

ABS Nautical Systems hosts multi-day conferences, with hundreds of users from various maritime market segments in attendance, to discuss NS5 Enterprise solutions. The events feature customer presentations and modular workshops, giving participants the opportunity to learn best practices for implementing and using the software while also having a voice in the future development of the software.

Cost-effective & Practical

Developed based on significant input from its user base, the NS5 Enterprise software suite offers operators a robust set of features that may be configured to meet their business needs. The direct line between customers and the development team also means that the software is presented to users in a practical, easy-to-use manner.

The NS5 Enterprise software solution offers a version where the business database is hosted on a dedicated server and access is as easy as logging in with a User ID and password. This version eliminates the need for remote office licenses and installations, thereby significantly reducing IT infrastructure costs.

Maintenance Management

According to the US Department of Energy, one of the greatest benefits of computerized maintenance systems is “the elimination of paperwork and manual tracking activities” but adds that “the functionality of such a system lies in its ability to collect and store information in an easily retrievable format.”

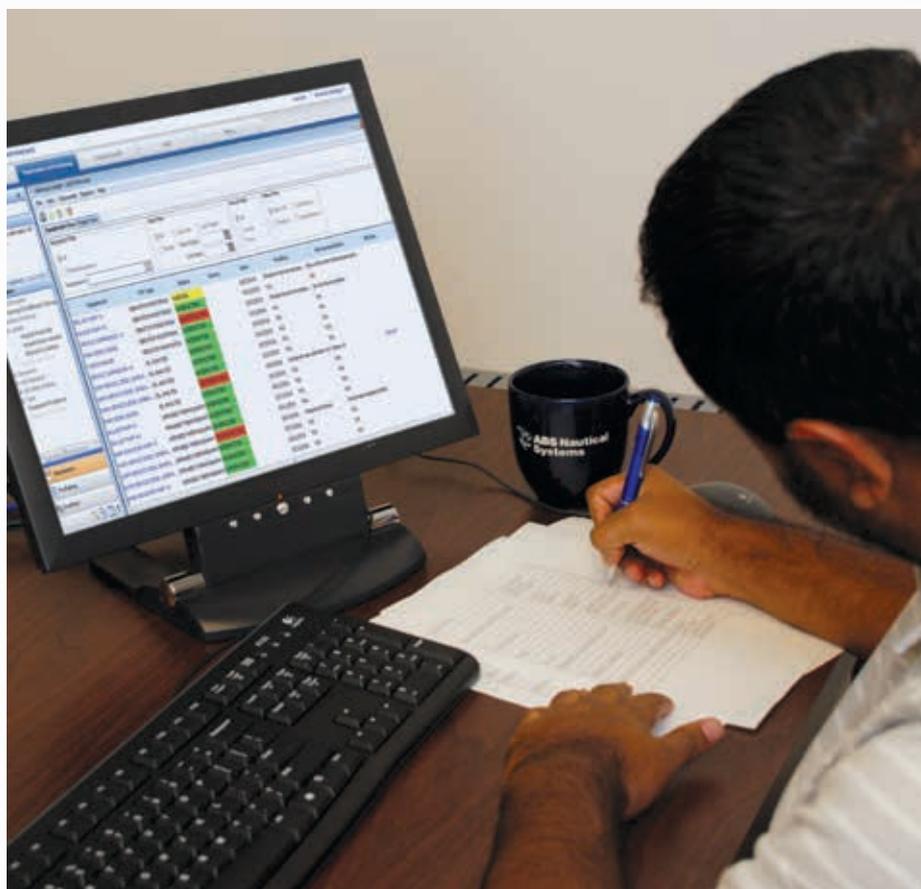
The NS5 Enterprise Maintenance Management suite provides owners and operators with tools that records day-to-day maintenance tasks and proactively monitors asset-specific or fleetwide maintenance trends.

The unique dashboard and reporting functionalities found within NS5 Enterprise allow users to quickly and easily generate custom reports in order to analyze data on a unit or fleetwide level. This enables the software to become a business intelligence tool that operators can use to detect systemic problems, forecast future maintenance expenses and prepare for upcoming drydocking and repairs – thereby minimizing downtime and increasing operating efficiency.

The NS5 Enterprise Maintenance Management suite includes the following modules:

- Maintenance Manager
- Drydock
- Hull Inspection
- Hull Maintenance

Data conversion from existing systems, planned maintenance optimization and integration with third-party condition monitoring companies are additional services that are offered during the implementation of the NS5 Enterprise Maintenance Management suite of software modules.



Maintenance Manager

Studies have shown that preventive maintenance (PM) programs, whereby equipment is maintained according to prescribed running hours or time intervals, can yield savings of up to 18 percent annually. The Maintenance Manager module allows operators to generate a preventive maintenance plan that is easy for the crew on board to use on a daily basis. Calendar timelines and job-specific daily worklists make it simple for the PM program to be monitored and updated.

Over time, use of the module provides operators with a robust machinery and vessel compartment history, whether for routine planned maintenance or those associated with special projects and events.

Capabilities

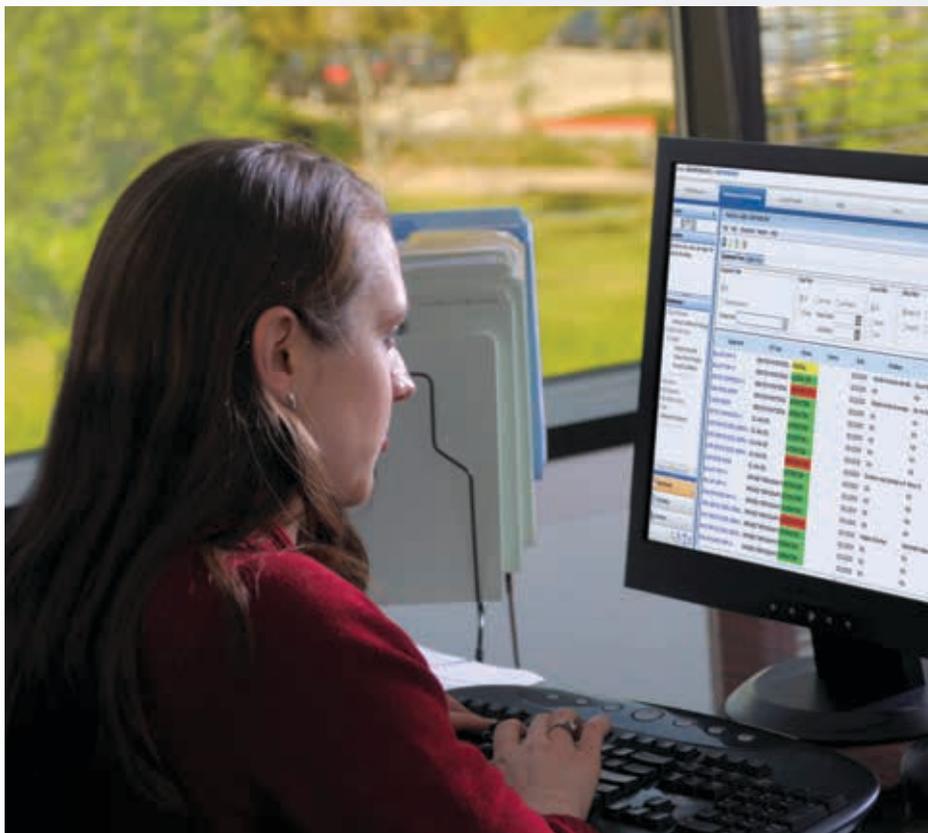
- Build asset hierarchy for systems, equipment and parts
- Incorporate manufacturers' specifications into the maintenance plan
- Monitor survey and certificate progress
- Replicate with ABS Eagle Survey Manager
- Link important documents or photos as attachments to equipment, parts and jobs
- Document work performed as per standard jobs based on original equipment manufacturers (OEMs) or owner's specifications
- Create service requisitions for work carried out by service contractors
- Generate user-defined project and cost reports
- Collect condition and failure data to assess machinery reliability
- Use hybrid/open maintenance counters (e.g., calendar, running hours, fuel consumption)
- Import condition data



Several features and optional utilities can be used to further enhance the Maintenance Manager program. Incorporating the condition monitoring and failure tracking utilities alone into an organization's activities can lead to a more predictive maintenance program.

Condition Monitoring

Through the use of the Condition Monitoring utility, machinery health trends to support maintenance optimization can be analyzed through data collected by crew members. This tool also facilitates integration with various third-party vendors, thereby allowing readings taken by condition monitoring specialists to be imported directly into the NS5 Enterprise system.



Capabilities

- Compare like equipment across the fleet
- Identify marginal or unsatisfactory items on condition report based on a traffic light status
- Generate and link a work order to the condition report for a specific piece of equipment through the condition monitoring results
- Report various maintenance metrics to support asset management
- Report the machinery health status on equipment enrolled in a classification society's preventive maintenance program

Failure Tracking

Owners and operators are able to identify equipment failures and the corrective maintenance activities associated with such failures. Effective tracking of this information is the basis for key maintenance metrics such as mean time between failures (MTBF) and mean time to failure (MTTF).

Capabilities

- Import failure modes in accordance with ASTM standards
- Identify failure causes
- Identify equipment and related parts
- Identify equipment that is out of service
- Estimate the mean time to repair

Class Integration

To improve the process of survey planning and preparation for ABS-classed vessels, this utility can be integrated with the ABS Eagle Survey Manager program. Class integration provides survey schedules and pre-survey work packs that include customized check lists for vessels. This integration aligns the NS5 Enterprise hierarchy with the ABS product model. NS5 Enterprise is the only fully integrated maintenance and survey planning tool of its kind.

Capabilities

- Plan for each vessel's survey to maximize the use of crew's time
- Identify the scope of surveys and requirements through data exchange
- Improve communications between owners and class
- Manage all PM and class jobs with NS5 Enterprise
- Address outstanding maintenance issues prior to the inspection



Serialized Items

An optional add-on to Maintenance Manager, this feature allows for the tracking of specific equipment and parts identified by their unique serial numbers throughout the life cycle of the equipment.

Capabilities

- Create a serialized reference for a specific part or equipment when installed on the vessel
- Record work orders for equipment or parts
- Track serialized items through the maintenance history including operation, refurbishment, warehousing and reinstallation



Job Safety Analysis

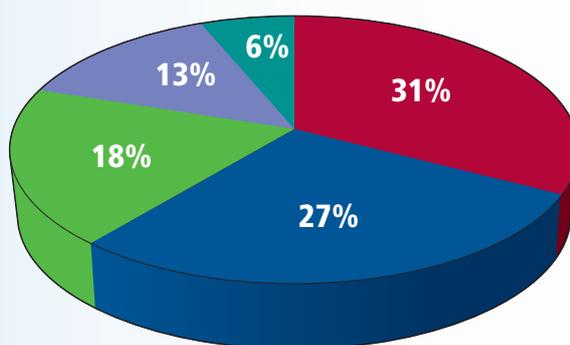
Available through integration with either the Maintenance Manager or HSQE Manager modules, this functionality allows an owner to identify hazards that are associated with day-to-day activities before they occur. The findings of a job safety analysis can help to prevent and eliminate hazards in the workplace.

Capabilities

- List job steps
- Identify hazards for each step
- Define control measures for each hazard
- Rank the likelihood and severity of each hazard
- Assign actions and/or responsibilities
- Create templates that can be applied to standard jobs
- Demonstrate compliance with ISM Code clause 1.2.2.2 1 (a formal requirement for companies to assess the risks to ships, personnel and the environment arising from their shipboard operations)

Job Safety Analysis

Out of 430 recorded near-misses, references to job safety and/or job hazards were captured. The results demonstrated that these near-misses were caused by the lack of an analysis or one that was conducted inadequately.



- No job safety analysis performed
- Inadequate assessment
- Prevented hazard
- Job safety analysis not followed as planned
- Unaware of need to assess, or of hazard



Drydock

The Drydock module provides a standardized method for drydock planning, budgeting and document preparation across an entire fleet. This module integrates drydocking, maintenance event planning and maintenance activities into the NS5 Enterprise Maintenance and Supply Chain Management systems. Linking drydock tasks with routine maintenance can help operators reduce yard over-charges and duplicate billing as well as assist with coordinating work activities.

Many users of the Drydock module report that they have been able to practically eliminate the numerous spreadsheets created by technical superintendents by consolidating them into one common system. This unification of data allows the organization to easily generate single-source reports including quality, service technician, work history and cost information.

Capabilities

- Manage the complete change order approval process
- Access a central repository for change orders, condition reports, insurance claims, corrective actions, budgets and other relevant information
- Define four-tiered categories for drydock-related tasks
- Generate drydock bid requests and specification documents
- Compare drydock-related quotes
- Track job progress and payments
- Import anomalies from the Hull Inspection module

Hull Inspection

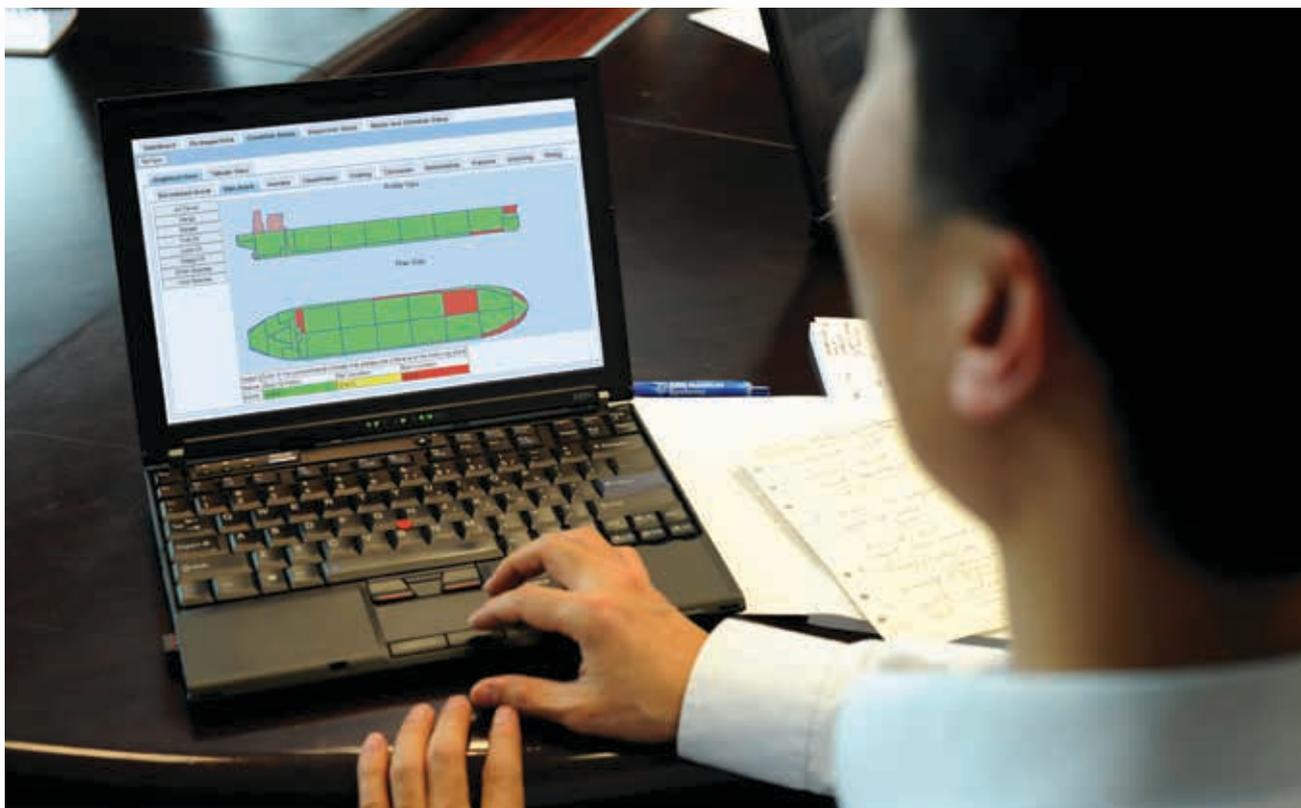
The Hull Inspection module can help track the structural condition of a vessel throughout its service life. The program includes a hull inspection manual outlining areas to examine; tools for scheduling, recording and reporting inspections; and the identification of critical areas for ongoing monitoring.

Using a simple methodology, assets are divided into zones with the critical structural areas identified based on engineering analysis and in-service experience. Each zone is then evaluated and graded against inspection criteria with the results displayed in an easy-to-understand traffic light warning system.

This can be applied to all vessels in an owner's fleet. The scoring system compares the condition of tanks on a specific vessel or against other vessels in a fleet. The inspection data collected for a large fleet of similar vessels will help the owner identify trends to better forecast repair requirements and manage resources.

Capabilities

- Alert staff to potential problem areas for inspection
- Generate deficiency reports, highlight critical areas and improve repair planning
- Maintain a history of inspections for compartments
- Apply a simple traffic light grading system to vessel zones
- Follow a standard approach with guidelines for inspections
- Monitor a built-in dashboard for high-level reporting and analysis
- Upload and link photos and other file attachments for inspections
- Track coatings, general corrosion, pitting, grooving, deformation, fractures and general cleanliness



Hull Maintenance

The Hull Maintenance module takes hull integrity to the next level. Representing a vessel or offshore asset in a 3-D relational database, operators are able to more easily visualize the structural condition at any point in time. The management of structural inspections is facilitated through tools for the importing and exporting of gauging plans; automated repair planning and cost estimation; forecasting of future condition and degradation of structural components; and the ability to export information to analysis packages.

Capabilities

- Access a life history of gauging information
- View a visual representation of the areas requiring renewal
- Develop a user-friendly compartment model
- Integrate structural information with survey status or vessel drawings
- Link photographs of structural components to each section
- Track damages, fractures, buckling, grooving and pitting
- Compare actual condition data against prescribed renewal criteria
- Generate steel weight, cost data and bill of materials for various repair scenarios



Supply Chain Management

A savings of one million dollars in one year, 50 percent lower average purchase order costs and inventory reductions of 10 percent or greater – these are a few examples of the return on investment operators can achieve by implementing the Supply Chain Management solutions.

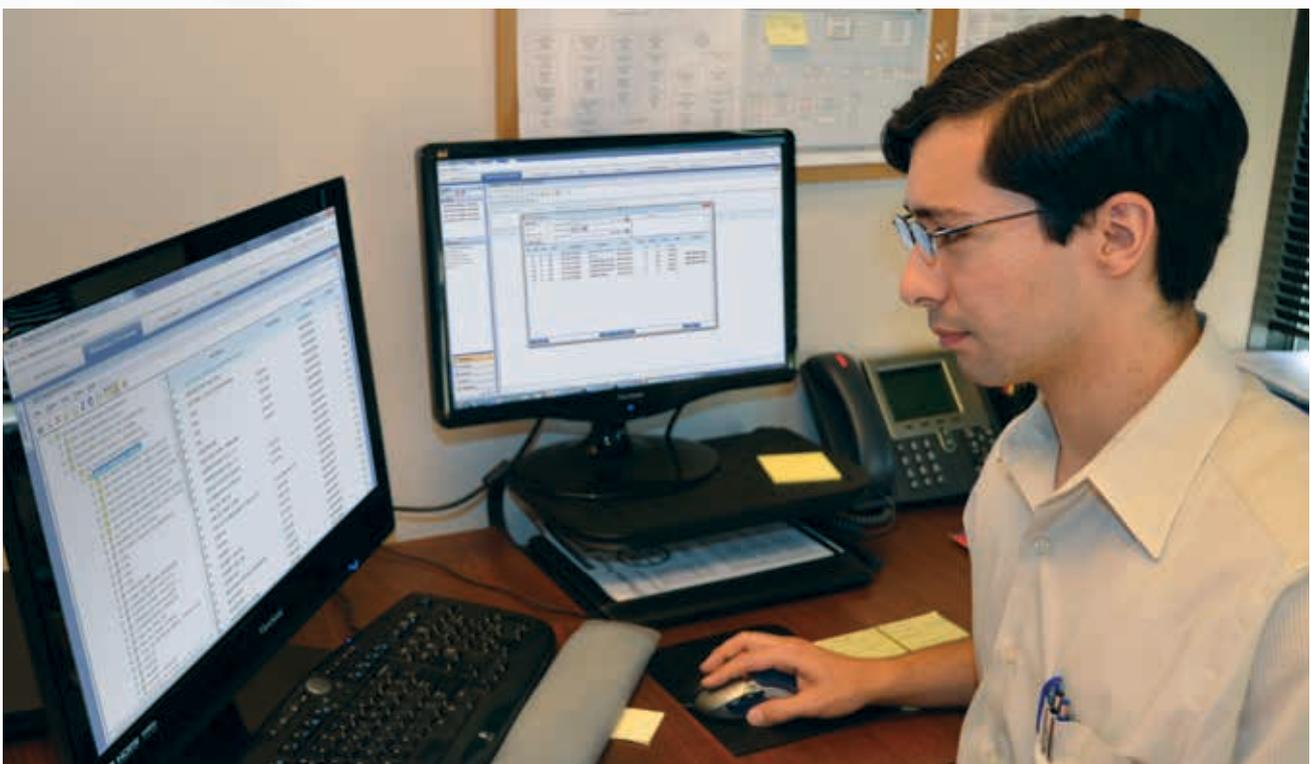
The NS5 Enterprise Supply Chain Management suite helps to streamline purchasing, budgeting and inventory processes from requisitions to invoices, as well as managing inventory across vessels and shoreside locations using handheld technology.

Dashboards allow users to quickly determine turnaround cycles, average purchase order (PO) costs and many other performance metrics that are commonly used by purchasing managers.

Available modules and utilities within the NS5 Enterprise Supply Chain Management suite include:

- Purchasing & Inventory
- Barcode Scanning
- eProcurement
- Interface Manager

Interface configurations, data conversion from existing systems and bridges to web-based purchasing portals are additional services that bring further value to users of the Supply Chain Management suite.



Purchasing & Inventory

According to a global study, the top three challenges faced by supply chain executives are: the growing complexity of global operations; the lack of visibility at various nodes of supply chain and; the need to improve top-line revenue.

The Purchasing & Inventory module can be used to quickly identify inventory replacement needs, average transaction costs, delivery dates and turnaround cycle times. Bridging the communication gap often found between the ship and shore, the module allows users to work in a common purchasing system, providing transparency throughout the organization.

The software captures a complete purchasing cycle from requisition to invoice through the delivery of goods. It also helps users keep track of items located in various sites including vessels, warehouses and shipyards. Tied to the equipment hierarchy, purchasers are able to easily identify items under warranty, thereby realizing significant savings.

Additionally, owners and operators can lower transaction costs further by implementing accounts payable or purchasing accruals interfaces to third-party accounting systems such as Oracle, JD Edwards, Lawson, SAP and many others.



Capabilities

- Develop requisitions, requests for quotes, purchase orders, transfer orders and invoices
- Conduct online cost comparisons with multi-currency exchange
- Utilize multiple eProcurement solutions
- Control requests for quotation (RFQ) and access to documents
- Document receipt and delivery of materials at warehouse or final destination
- Manage inventory on one vessel or across an entire fleet
- Maintain inventory with handheld scanner technology
- Create and manage material contracts
- Pre-define a list of approved vendors and suppliers for specific equipment
- Generate a PO approval matrix, providing auto-assignment and auto-notification for approval based on type/cost
- Integrate with ShipServ pages to search for new vendors during purchasing

By implementing the following optional utilities into the Purchasing & Inventory module, users can achieve even greater efficiencies with their inventory management.

Barcode Scanning Technology

By using handheld computers and scanners, shipboard crew members, as well as technical and purchasing managers, are able to streamline the process for conducting inventory functions on board vessels and in the warehouse. Users can realize savings by reducing time and effort to conduct inventories. The utility also helps to improve accuracy with inventory cycle counts.

Capabilities

- Track inventory by location
- Conduct true cycle counts
- Manage exception and reconciliations within NS5 Enterprise
- Integrate data with the Maintenance Manager module
- Utilize more durable labels

eProcurement

Several eProcurement options are available. These range from a simple add-on tool for the electronic transfer of RFQ and PO information with vendors to interfaces with third-party, full-service marine electronic purchasing providers. Options include:

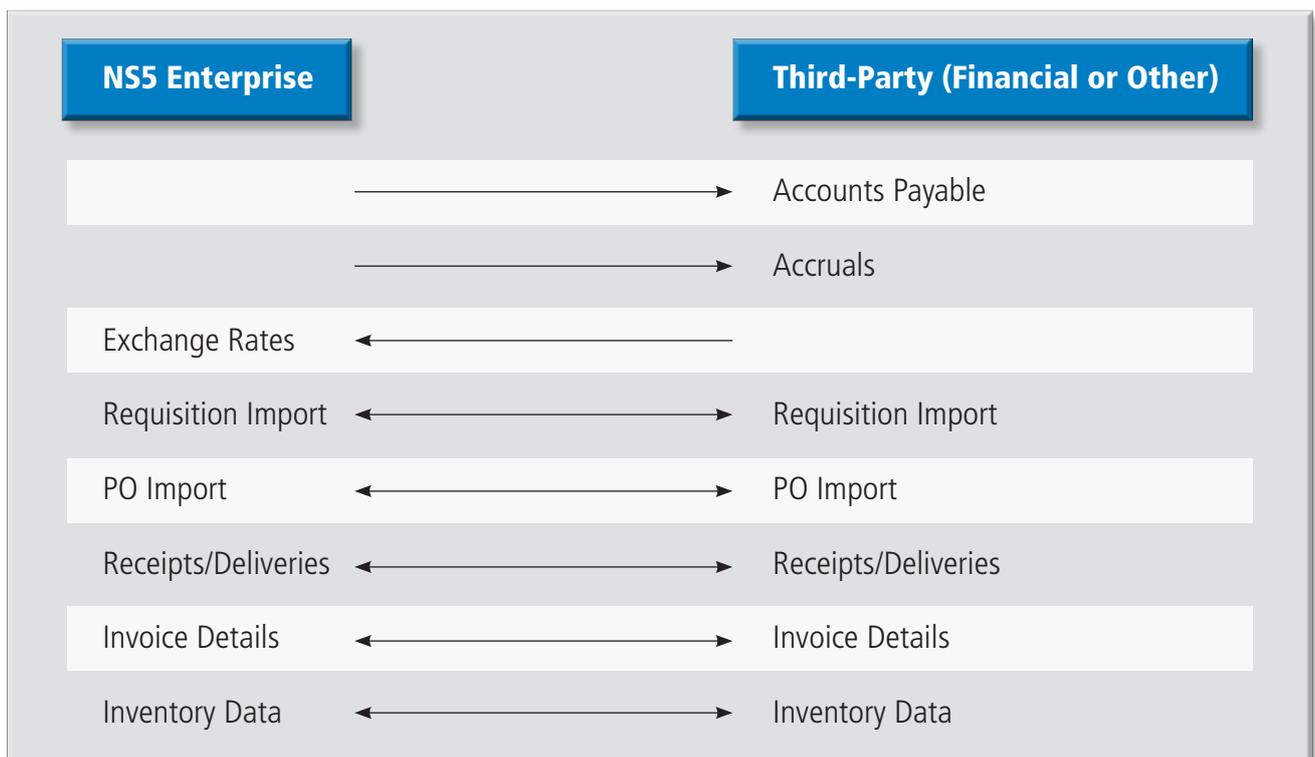
- ABS eProcurement
- ShipServe adaptor
- Other third-party tools





Interface Manager

NS5 Enterprise has the ability to interface with a variety of third-party financial, purchasing and other software packages. The Interface Manager utility consists of standardized interfaces with information flows to and from NS5 Enterprise. ABS Nautical Systems' staff can also develop interfaces with virtually any product that accepts database files, spreadsheets, XML, ASCII delimited files or fixed format files.



Workforce Management

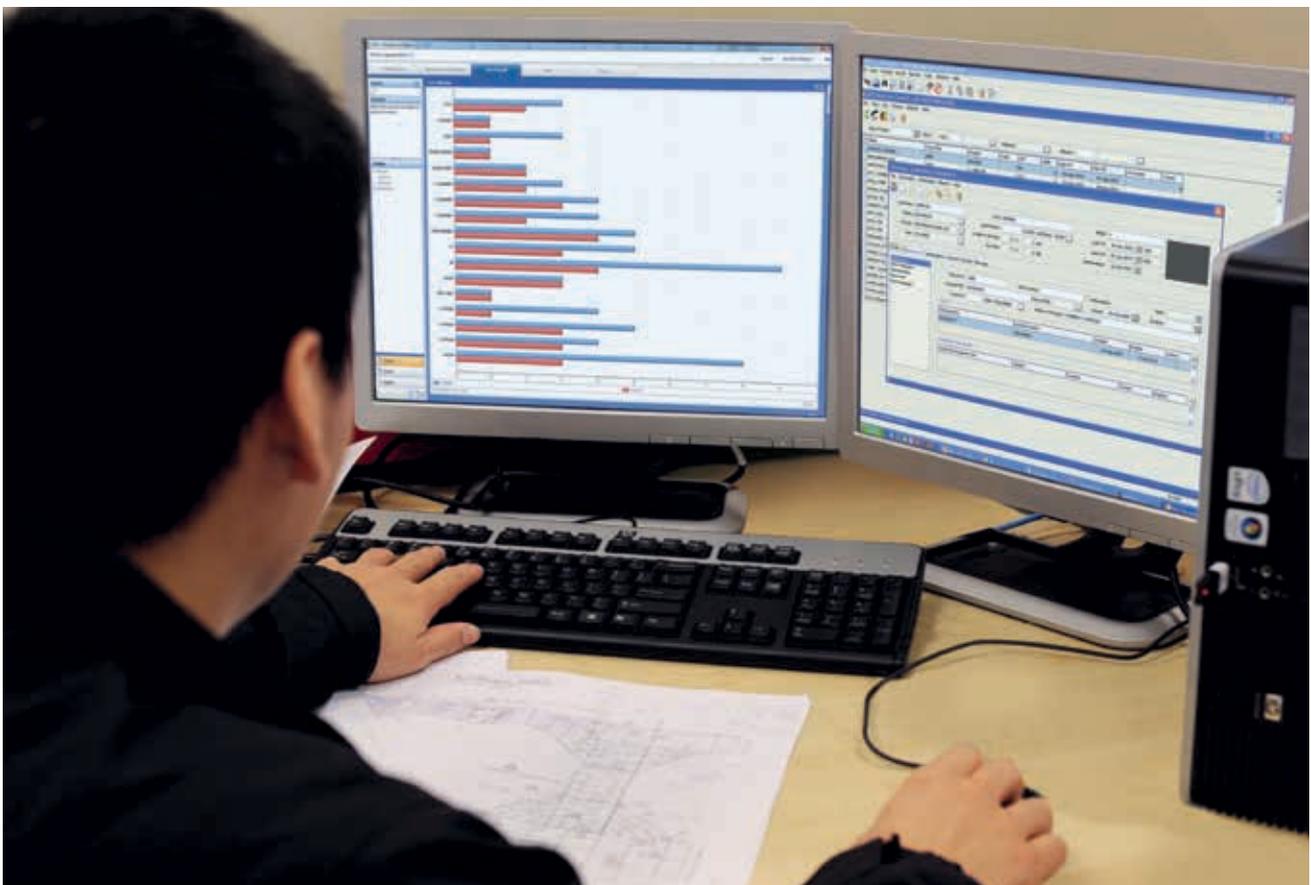
With crewing costs estimated to comprise between 40 and 60 percent of an owner's total operating costs for a vessel, ship managers have the opportunity to derive significant savings when they increase productivity, lower transaction costs and reduce personnel turnover.

The NS5 Enterprise Workforce Management suite helps ship managers improve their operating efficiency through the simplification of crewing administration, reducing payroll errors and optimizing crew managers' time spent in recruiting qualified personnel.

Available modules and utilities within the NS5 Enterprise Workforce Management suite include:

- Crew Manager
- Crew Payroll
- Union Reporting

Data conversion from existing systems, interface design with payroll systems and/or general ledger accounts and custom reporting are additional services available during the implementation of the NS5 Enterprise Workforce Management suite.

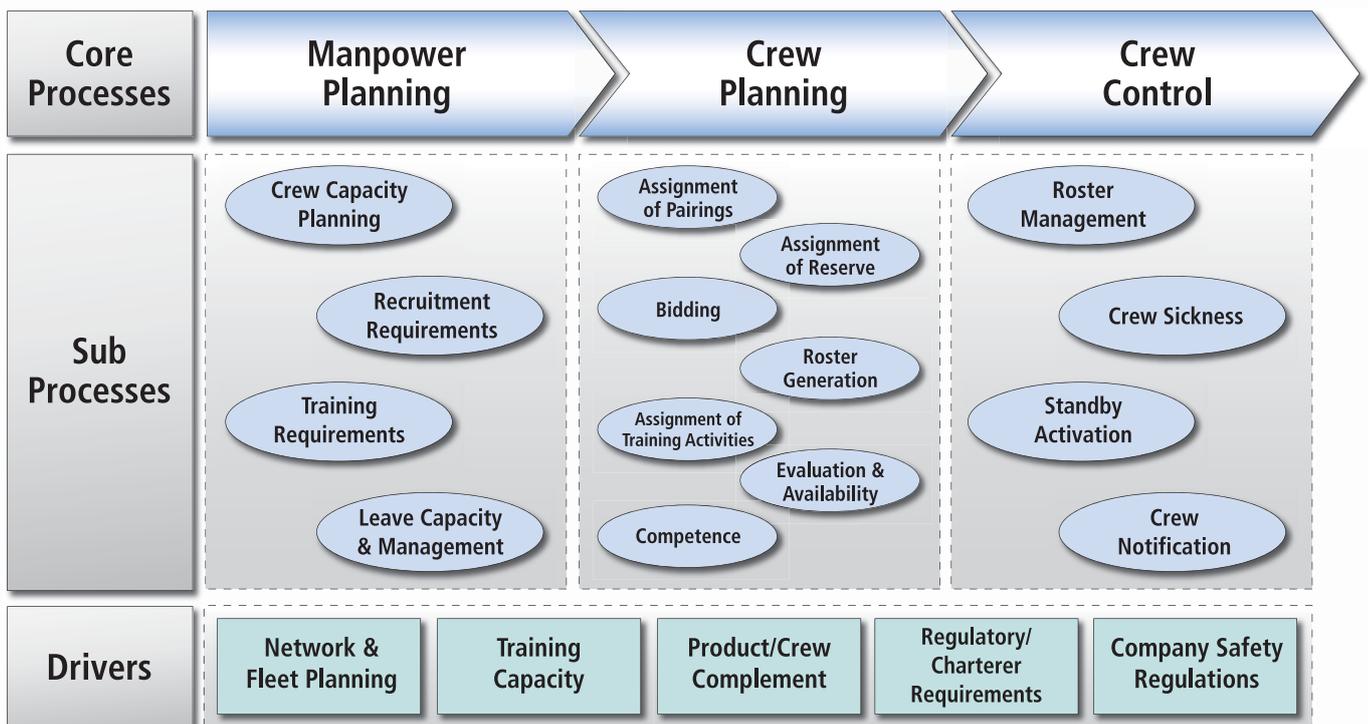


Demonstrating Compliance to Standards

When the Crew Manager and Crew Payroll modules are used in conjunction, ship managers can easily demonstrate compliance with requirements of the ILO’s Maritime Labour Convention, including:

- Crew manning levels
- Qualification requirements
- Crew medical requirements
- Age of crew members
- Seafarer employment agreements
- Recruitment or placement agencies
 - Payment of wages
 - Leave entitlement

Owners and operators can also demonstrate compliance with the International Convention on Standards of Training, Certification and Watchkeeping (STCW) and the Oil Companies International Marine Forum (OCIMF) guidelines such as minimum rest hours and tanker operator experience, respectively.



Crew Manager

The Crew Manager module simplifies the administration required to keep vessels staffed with qualified people by integrating personal and qualification details of crew with customized vessel requirements.

Built-in crew scheduling calendars allow crew managers to quickly identify staffing requirements and locate qualified personnel. Links to performance history data within the scheduling calendar provide for the comprehensive evaluation of crew members for open positions across the fleet.

The module provides a common database both on and offshore for the maintenance of historical personnel records including personal documents, onboard service times, training and medical records.

Capabilities

- Manage comprehensive workforce data
- Establish rotational pools of personnel
- Maintain complete sea and shore service employment records
- Access and schedule assignments for crew members across the fleet
- Monitor crew licenses, training records, certificates' validity and expirations, as well as leave intervals and replacements with automatic analysis and alerts
- Automatically verify that crew members are fully qualified to be on the vessel and perform the duties as required by registry and company requirements
- Establish crew member medical profiles tracking exams and inoculations
- Record illness/injury records and medical requests
- Utilize built-in alerts for upcoming document expirations



Crew Payroll

The Crew Payroll module is a highly customizable, integrated payroll and general accounting system that can manage multiple employment contracts, currencies, personnel allotments, overtime and onboard deductions.

Designed specifically for the maritime industry, it allows for payroll processing either from the shore or on board the vessel. NS5 Enterprise offers several interfaces to third-party accounting and payroll systems to further streamline the payroll process.



Capabilities

- Organize payroll for multiple companies, contracts and currencies
- Record earnings and deductions based on manual or auto-calculated amounts
- Document summary or detailed overtime records to include work codes
- Manage leave balances automatically through days on/off calculations
- Handle multiple one-time or recurring allotments for seamen
- Assign payments via bank transfer, cash, check or carry forward
- Reconcile cash, stores, slops and provisions with the Master's general accounting tool
- Generate seamen vouchers on board the vessel and in the office
- Calculate gross to net based on local, national and international requirements
- Utilize union benefits interface

Union Reporting

An optional feature that interfaces with the Crew Payroll module, this utility provides the crew manager with an easy tool to calculate, manage and report union contributions as specified by labor contracts. Reports are generated in an easy-to-understand format that can be sent directly to the unions.

Safety Management

Implementing safety management systems within an organization can be made easier with greater use of technology and IT to reduce paperwork. By integrating document requirements and motivating seafarers to use the reporting and monitoring tools, organizations are able to efficiently capture the necessary information for compliance.

The NS5 Enterprise Safety Management suite provides the opportunity for quality managers to analyze safety-related data collected across the fleet, conduct thorough root cause investigations and control the distribution of important company documents.

The Safety Management modules offer a cost-effective tool for owners and operators to streamline their safety management processes. By providing a standardized method both on and offshore for recording audits, incidents, inspections, drills and corrective action requests through NS5 Enterprise, organizations can significantly reduce the burden of paperwork on their staff. The ease of use can translate into a greater acceptance among the crew to report incidents.

Available modules within the NS5 Enterprise Safety Management suite include:

- HSQE (Health, Safety, Quality and Environment) Manager
- Document Management
- Internal Inspection Manager

Additional services during the implementation of the Safety Management suite include loading the ABS root cause analysis map and OCIMF protocols as well as designing and building the document hierarchy.



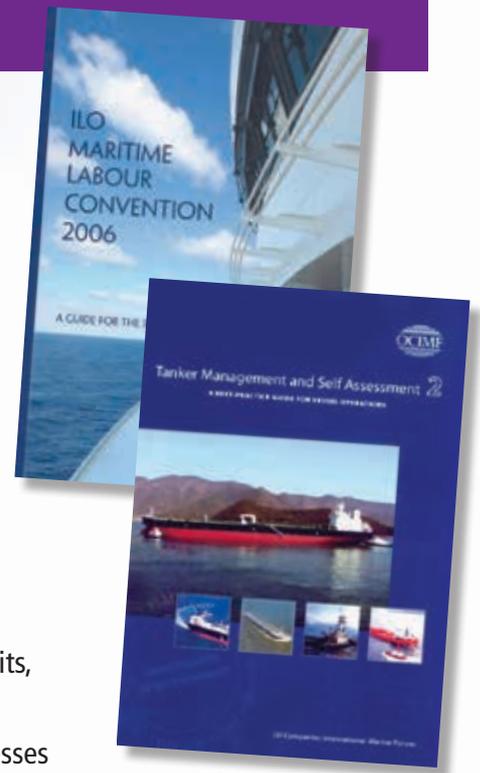
HSQE Manager

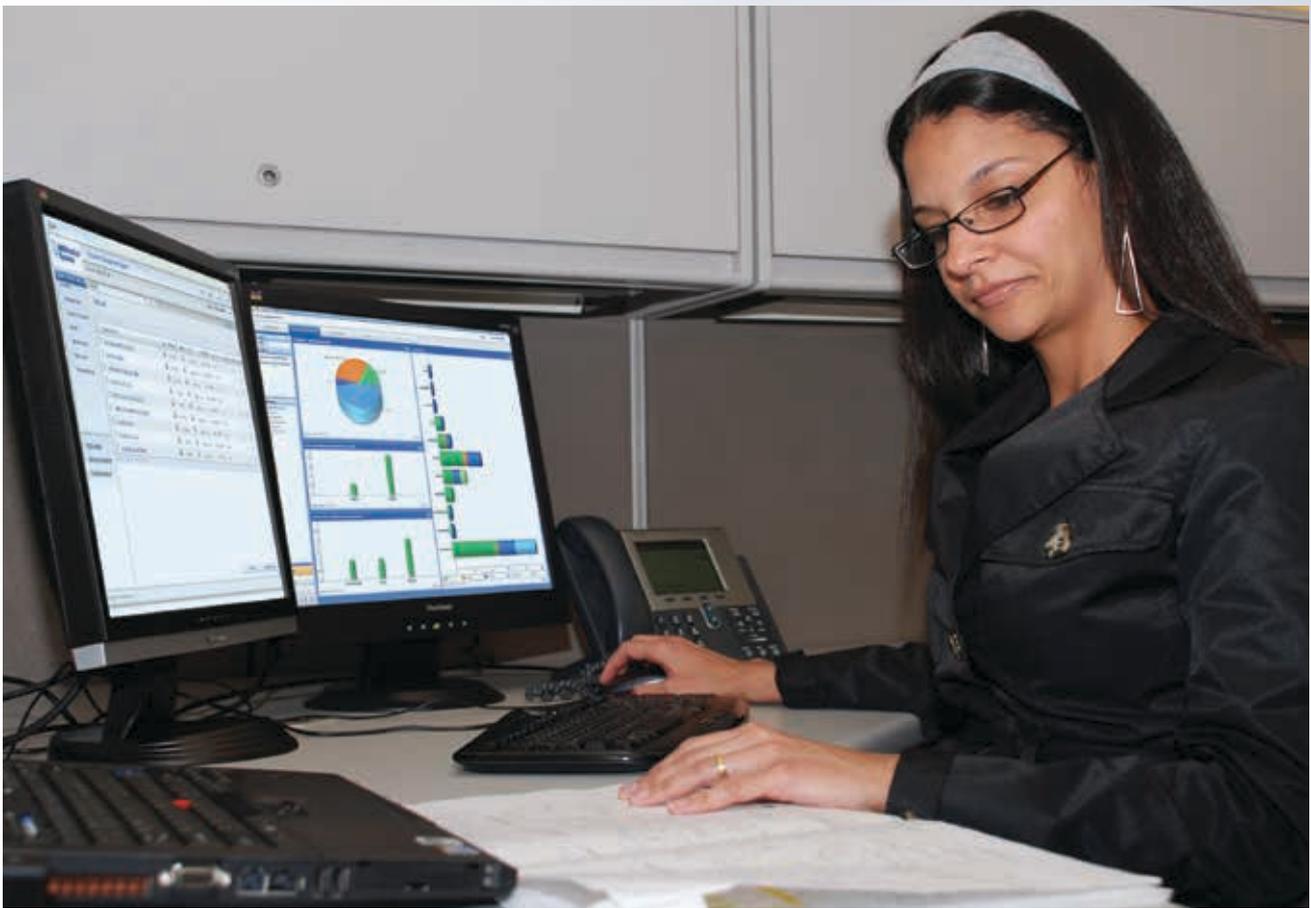
By using the HSQE Manager, personnel are able to process audit and incident reports, drills, inspections and corrective action requests (CARs) associated with safety management systems.

HSQE Manager integrates with the NS5 Enterprise Maintenance Manager, Purchasing & Inventory and Crew Manager modules to create a complete history of maintenance, procurement and crew events. HSQE Manager can be an important tool for documenting compliance to other regulatory, quality or self-assessment programs such as the ILO's Maritime Labour Convention or OCIMF's Tanker Management and Self-Assessment program.

Capabilities

- Maintain detailed records for internal, external, office or shipboard audits, inspections, meetings and drills
- Document incidents or near misses including lost-time injuries and illnesses
- Identify problems and events using the integrated root cause analysis (RCA) tool
- Link images, documents, spreadsheets and drawings to audits, incidents, meetings, drills or CARs
- Perform comprehensive queries and export results for further analysis
- Load OCIMF protocols





Document Management

Document Management, a browser-based application, fully integrates with the other modules within NS5 Enterprise. The system provides a centralized location for documents that align with a client's equipment hierarchy. It has been structured to capture additional equipment information, OEM specifications, photos and electronic drawings in PDF format to be stored and accessed globally. A simple link within the hierarchy provides access to the document repository.

Capabilities

- Organize, classify or group documents using a hierarchical structure
- Store all versions of a document
- Maintain records of entries and/or changes made to a document
- Generate a detailed view of revision history
- Utilize advanced search queries by author, audience, date, vessel or vessel type
- Upload several documents simultaneously
- Enforce approval before publishing
- Observe approver and reader comments
- Create document revisions
- Publish to selected persons, crew positions, vessels and vessel types
- Republish new or revised versions instantaneously across the company and/or fleet

Internal Inspection Manager

The Internal Inspection Manager provides various vessel operators with a tool to prepare for vetting inspections. It can help to improve the timeliness and accuracy of responses to observations that are made during inspections as well as assist with the reduction of the number of observations noted.

Capabilities

- Record observations against a vessel and/or fleet
- Maintain standard responses to vetting observations
- Import multiple vetting protocols for reference
- Conduct vetting reporting, analysis and trending
- Coordinate responses to vetting principals
- Use multiple versions of vessel inspection questionnaires (VIQs)



Environmental Management

With global attention on energy efficiency and the need to comply with a growing number of environmental regulations*, maritime companies are turning to software applications that provide the tools to help improve operational efficiencies, as well as address compliance requirements.

*Regulations include

- MARPOL Annex VI – Fuel Switching (Regulation 14) and SEEMP (Regulation 22)
- Ballast Water Management Convention for Control and Management of Ships' Ballast Water and Sediments (BWM)

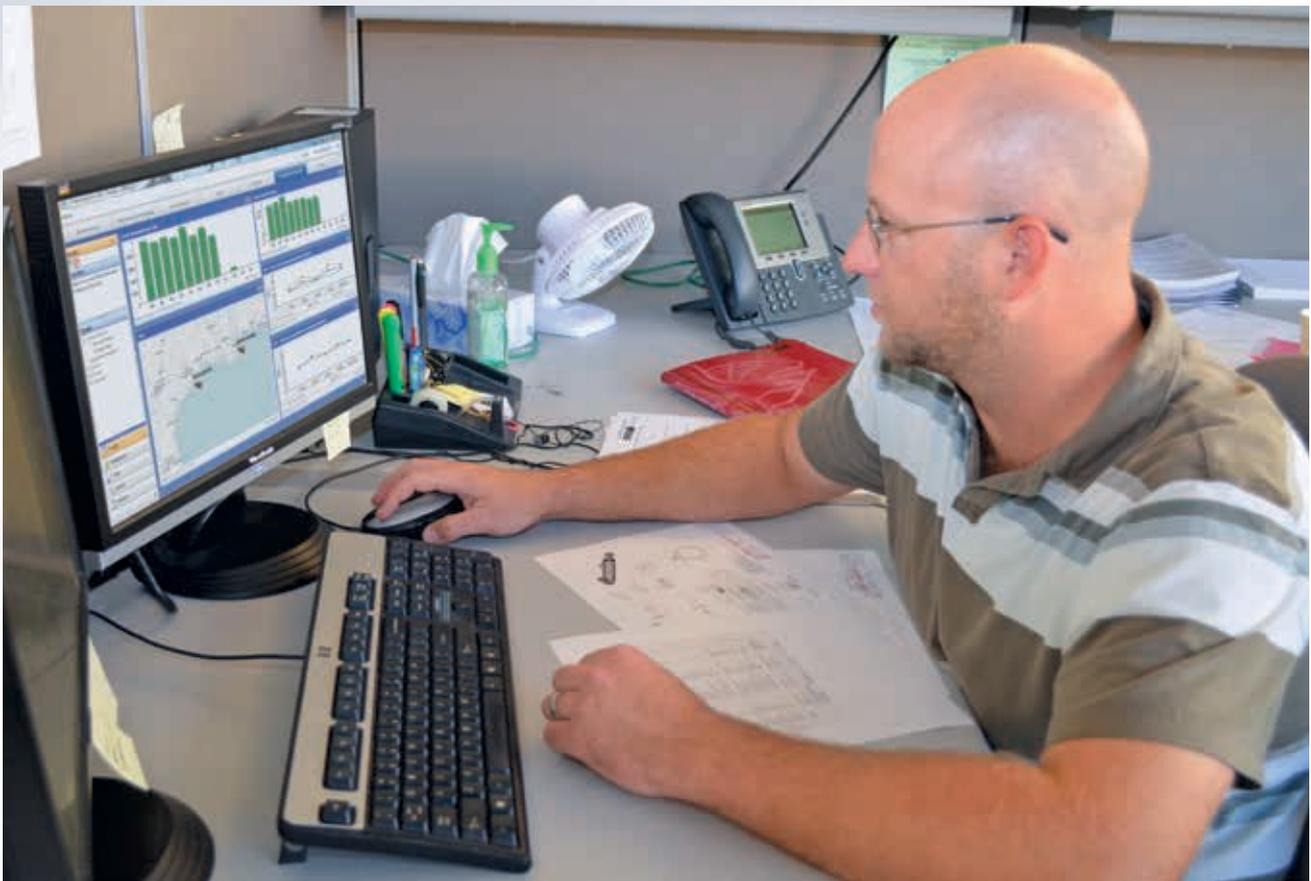
The NS5 Enterprise Environmental Management suite offers tools with capabilities that can enhance an organization's operational processes, improve fuel efficiency and streamline the collection, analysis and reporting of environmental data.

Available modules within the NS5 Enterprise Environmental Management suite include:

- Energy & Environmental Manager
- Trim Optimization

Operators that utilize the Environmental Management suite are able to improve and support efficient operations while reducing CO₂ and SO_x emissions.





Energy & Environmental Manager

The Energy & Environmental Manager provides a platform for effective, efficient and environmentally sound voyage management. Business intelligence features allow operators to click directly to the data at a component level, while customizable dashboards provide both crew and shoreside personnel access to the same information for trending and analysis, leading to improved asset and fleet performance.

Data entry can be done manually or automatically. The automated feature, powered by ESG's OstiaEdge® software enables data from systems that are already in place to be integrated into NS5 Enterprise so operators are able to work with a single solution to manage critical environmental data.

The Energy & Environmental Manager can also help track and report on key voyage-related events including ballast activities, fuel and lube oil consumption, fuel oil switching and cargo information.

Capabilities

- Facilitated and centralized data collection
- Automated system for data collection in real time
- Track, trend and report information for regulatory compliance
- Analysis and trending at both ship and fleet levels
- Monitor emissions with built-in calculators
- Compile and record ballast water and fuel switching activities electronically
- EEOI voyage calculators

Trim Optimization

The Trim Optimization tool, offered in partnership with Herbert-ABS Software Solutions, LLC, adds trim and draft optimization as a way to help with the fuel efficiency of a vessel.

Current loading conditions are used as a starting point to calculate the ideal trim for minimum hull resistance. Genetic algorithms with user-friendly interfaces use real-time data to propose the best management solutions for the vessel's Master. This feature provides quick and consistent results, finds optimal performance solutions within regulatory boundaries, so that the safety of the vessel is maintained at all times.

The Trim Optimization tool is fully integrated into the industry-recognized software program CargoMax V2 providing stability and strength calculations as a value-added advantage.

Capabilities

- Integrated ship performance curves
- Push-button optimization device
- User-defined optimization parameters
- Auto ballast tool
- Auto cargo distribution
- State-of-the-art algorithms
- Highly customizable



Service & Support

No fleet management system will be successful if the product is not properly implemented and the staff using the system is not adequately trained. ABS Nautical Systems strives to assist owners and operators with making the NS5 Enterprise system work for them to the fullest extent possible.

Multiple levels of service and support are provided to customers around the clock. Dedicated account managers serve as the primary contacts for organizations. The product support team is tasked to resolve NS5 Enterprise software issues that might arise. In addition, product consultants are responsible for the implementation, training and consulting services of the software. At any stage of the relationship with ABS Nautical Systems, customers benefit from efficient, direct contact with employees with in-depth knowledge of the NS5 Enterprise system installation and operating environment.

Project Management

ABS Nautical Systems uses a project management system for large-scale implementation projects. A dedicated project manager is assigned to work on the client's account to achieve deliverable goals. Benefits include:

- Full project life cycle management
 - Initiation
 - Planning
 - Execution
 - Monitoring
 - Project closure
- Finalized scope of work prior to the start of the project
- Defined communications, risk, resource and change management plans
- Alignment with Project Management Institute (PMI) standards

During Implementation

Several services are available to customers during the installation and setup of the NS5 Enterprise system:

- Process mapping and business improvement
- System implementations
- System integration
- Embedded staff
- Remote hosting



Data Services

Data management services are offered so clients can reap the maximum benefits when using NS5 Enterprise, including:

- Data entry
- Interface with ABS Eagle Survey Status
- International Marine Purchasing Association (IMPA) catalog subscription
- Data conversions and data loads
- Database creation and development
- Data cleansing

Training

ABS Nautical Systems is committed to providing its customers with the best software and services available on the market. Education and training have a significant impact on the overall success of product integration into an organization.

ABS Nautical Systems uses a train-the-trainer approach that has proven successful in providing organizations with the capability to manage routine training needs in-house. Training services are available, either at an ABS Nautical Systems office location or onsite at the customer's facilities.



Following Implementation

Designated account managers act as liaisons for service needs such as support escalation, project management, software add-on opportunities, consulting and system upgrades. Technical support is also available 24/7 through a centralized support system that will log reported problems, route to the appropriate personnel for action and escalate for increased attention if necessary.

A customer web portal includes additional tools that are instrumental in the successful use of the NS5 Enterprise software, including:

- Product upgrades, enhancements and patches
- Product manuals
- Quick reference guides



As a Veteran User

Even years after customers have implemented modules from the NS5 Enterprise suite many have found that the training, consulting or auditing services from ABS Nautical Systems provide the opportunity to further enhance the operational efficiencies of their ship management process.

System Audits

On request, ABS Nautical Systems will conduct an independent review of an organization's use of the system against company-defined business practices and makes recommendations as to how using additional functionality within the software could benefit the operator.

Boot Camps

Hands-on sessions provide intensive training on specific operational areas. Training may be conducted onsite, at the ABS Nautical Systems' headquarters or at any of the regional offices. Users are provided with the opportunity to network with other users while they learn how to apply enhanced features into their daily work.

User Conferences

Conferences for NS5 Enterprise users offer insight into future product developments, best practices presentations from other users and detailed workshops to discuss problems or suggestions for future enhancements.

Technology

NS5 Enterprise is a multi-tiered, distributed application that is built using industry standard technologies and tools. It is highly scalable and supports various deployment options as well as many popular databases such as Oracle, MySQL and Microsoft SQL Server.

NS5 Enterprise is database agnostic which allows users to operate the database of their choice. A rich user interface and a standardized application workflow provides for a user-friendly experience. Application access control is achieved through a role-based access control (RBAC) model.

Features

- Advanced user-defined, multidimensional query support
- Built-in dashboards for management and end-users
- Secured and advanced data synchronization between ship and shore
- Supports various email protocols such as MAPI, AMAPI, POP3/SMTP and IMAP/SMTP



Products & Services

Fleet Management Categories

Maintenance Management

- Maintenance Manager
- Drydock
- Hull Inspection
- Hull Maintenance

Supply Chain Management

- Purchasing & Inventory
- Interface Manager

Workforce Management

- Crew Manager
- Crew Payroll

Safety Management

- HSQE Manager
- Document Management
- Internal Inspection Manager

Environmental Management

- Energy & Environmental Manager
- Trim Optimization

Standard Interfaces

- Invoicing
- eProcurement
- Accrual
- Commitments
- Budgeting
- Inventory Logistics Imports & Exports
- Barcode Scanning

Consulting Services

- Project Management
- Process Mapping & Business Improvement
- System Implementations
- System Integration
- System Audits
- Embedded Staff

Data Services

- Data Entry
- Interface with ABS Eagle Survey Status
- IMPA Catalog Subscription
- Data Conversions & Data Loads
- Database Creation & Development
- Data Cleansing

Training Services

- End-user Training
- System Administration Training
- Management Training
- Boot Camp Style Training
- Train-the-Trainer Programs
- Customized Training Programs

Information Management Services

- Custom Development Projects
- Dashboards & Business Intelligence Solutions
- Remote Hosting & System Administration

Integrated Asset Management Solutions

Specializing in applications designed for the needs of the marine, offshore and energy, government and workboat industries, ABS Nautical Systems offers a fully integrated, modular approach to managing the principal operational expenses associated with a vessel, boat or offshore rig.

Benefits of utilizing the NS5 Enterprise software suite of products include:

- Extending asset life
- Minimizing unplanned maintenance
- Facilitating compliance and avoid fines
- Reducing inventory costs
- Establishing uniform processes
- Mitigating risk
- Eliminating redundant data entry
- Enhancing company communications
- Improving customer service
- Increasing data security

ABS Nautical Systems is committed to assisting the maritime industry with achieving operational excellence by providing the best asset management solutions for the industry.





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Vina del Mar, Chile

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Rio de Janeiro, Brazil

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For a comprehensive demonstration of the benefits of the NS5 Enterprise email:
NS-info@eagle.org