



MARINNOVATION – *“Transforming Businesses Oceanwide”*

Providing Electronic Solutions
to Maintain operational Efficiency
and Compliance

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MARINNOVATION – *“Transforming Businesses Oceanwide”*

The presentation aims to identify and share solutions for the root causes because of which Administrative Tasks appear as a burden. The same is covered through following slides

- Root Causes – What makes administrative tasks a burden
- Scenario with other industries and solutions adopted
- Possible Solutions – What Maritime Industry can Adopt
- Benefits of Such Solutions – Managing Data Effectively
- Examples of Technology Based Solutions for Maritime Industry
- Glimpses of such solutions
- Example of companies using such solutions



Root Cause– What Makes Administrative Tasks a Burden

- Repetitive task of Information sharing
 - Almost same paper work is shared with different stakeholders in terms of port forms, reports, documents etc.
 - Different stakeholders have varying degree of completed information, resulting in repeated updates
- Lack of centralized storage for quick information access,
- Search for Information across mammoth manuals, documents, reports
- Maintain, Display and Print record
- Lack of Manpower to do specific administrative tasks



Scenario with other Industries and Solutions Adopted

Similar Industries like aviation, tourism, hospitality experienced excessive paperwork since last two decades.

However they were quick to adopt solutions like

- Outsourcing, offshoring of Non Core activities like
 - data entry,
 - record keeping
 - Reporting, Analytics, MIS etc.
- Adoption of technology based solutions like Digitization and Integrated workflows for core activities
- Accessing Information using cloud based storage
- Adopting SaaS, Spatial Data Management



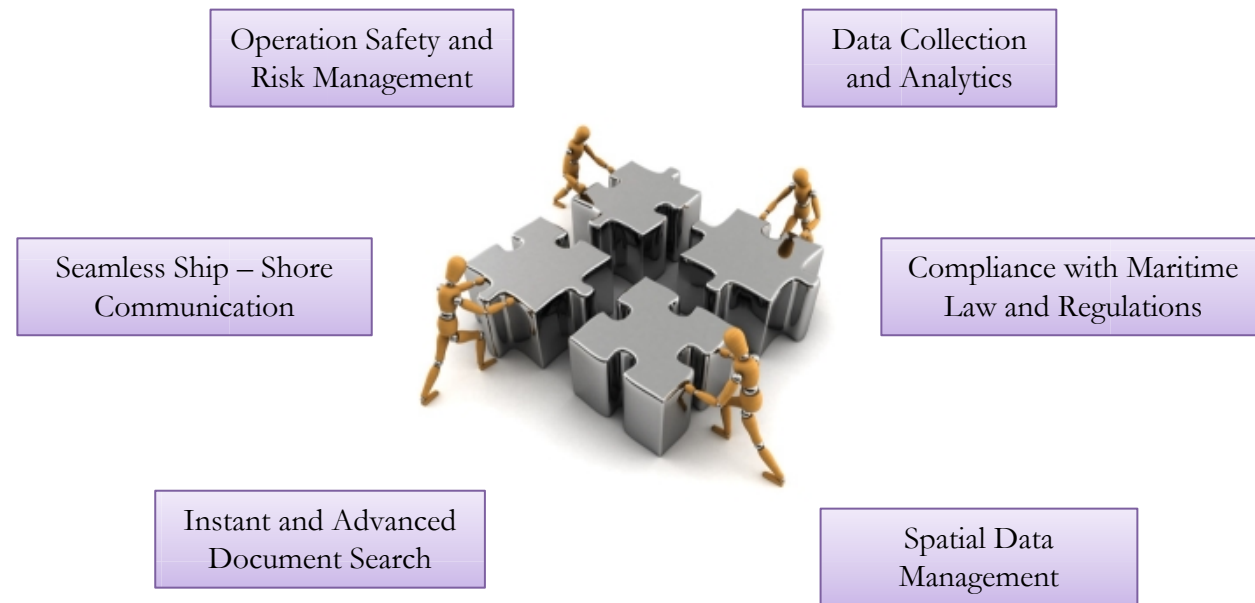
Possible Solutions – What Maritime Industry can Adopt

- Outsourcing, Offshoring
 - Shore based teams can prepare and keep all the required documents ready – easily applicable for arrival departure paper work, planning of work rest hours etc.
 - Generating of MIS reports
- Digitization and adopting Document Management, Knowledge Management Systems for
 - Enabling workflows for reporting between Ship & shore
 - Enabling access of same information and better search through a centralized repository
- Spatial Data Management for Tracking vessels, Information sharing with different stakeholders – owners, Flag State, Port State, Commercial bodies



Benefits of Such Solutions – Managing Data Effectively

- Outsourcing, offshoring has resulted in saving of atleast 40% of company's time and saving costs by 30%
- Adopting integrated workflows, document management systems, etc.
 - Enables completing same work *in half the time*
 - Paves way for paperless office; a positive impact on environment too
 - Provides Anywhere , Anytime Accessibility
 - Ensure Safe, Reliable and Efficient Ship Operation
 - Effective Tool for Decision Support



Compliance Requirements – Burden Elements & Available Electronic Solutions

➤ Below table describes the challenges faced by Maritime Industry and available Electronic Solutions

S.No.	Requirements - Mandatory Compliance	Element of Administrative Burden	Technological Solution and Additional Benefits	Application Name, Link
1	<p>Chapter IX – ISM Code Section 6 – Requires all on board to be fully conversant and upto date with Company's Safety Management System and</p> <p>Chapter IX – ISM Code Section 11 - lay emphasis on Documentation</p>	<ol style="list-style-type: none"> 1. Regularly referring, searching for mammoth information 2. Refer to changes that have come while seafarer was on leave 3. Repetitive task of filing and maintaining records 	<ol style="list-style-type: none"> 1. Central repository for SMS, circulars, reports, documents, publications etc. enabled with Google Like Search capabilities and integrated workflows for seamless data exchange between ship and shore; 2. Other than SMS Manuals can be used for record keeping, e-filing, sharing of information related to various maritime notices, circulars, MSDS sheets, IMO reference library etc. 3. In a nutshell any document in popular electronic formats can be stored, versioned, searched and filled etc. along with workflow integration 	Knowledge Manager
2	Chapter IX - Section 9 - requires reporting and analysis of Non Conformances, Accidents and Hazardous Occurrences	<ol style="list-style-type: none"> 1. Reporting of same information to stakeholders 2. Record Keeping 	<ol style="list-style-type: none"> 1. Smart Interactive forms for mandatory reporting coupled with workflows for decision making; 2. Coupled with data capturing from relevant fields to provide meaningful analysis, trends, reports that can be sliced and diced as per the organization hierarchy and other parameters 	Ship Shore Reports and Analysis

Compliance Requirements – Burden Elements & Available Electronic Solutions



➤ These are available either as Enterprise wide solutions or stand alone modules, applications such as

S.No.	Requirements - Mandatory Compliance	Element of Administrative Burden	Technological Solution and Additional Benefits	Application Name, Link
3	Chapter IX - Section 12 - Verification, Review & evaluation of SMS by way of audits	<ol style="list-style-type: none"> 1. Planning for audits (<i>can be a huge task for a company with large fleet size</i>) 2. Repetitive task of filing and maintaining records 	<ol style="list-style-type: none"> 1. Application that caters to entire value chain from planning of audits to closing deficiencies and mandatory reporting; 2. Eliminates repetitive task of filing and record keeping for all internal and external audits, vetting PSC inspections etc. 3. Application has interfaces for data import and export from/to popular databases; 4. Enables seamless data availability for decision making and MIS purposes 	Audit
4	Chapter IX - Carry out Risk Assessment for Operational activities, personnel & environment	<ol style="list-style-type: none"> 1. Referring to voluminous information to prepare Risk Assessment sheets along with checklists & work permits 2. Work Planning 3. Filing and record keeping 	<ol style="list-style-type: none"> 1. Provides a sustainable way to perform reliable, repeatable risk assessments in line with company specific permit to work procedure and shipboard checklist system 2. Maintains database of Risk assessment sheets that are approved and used earlier 3. Provides flexibility to amend previously approved the risk assessment sheets to suit specific work situation 	RMS

Compliance Requirements – Burden Elements & Available Electronic Solutions



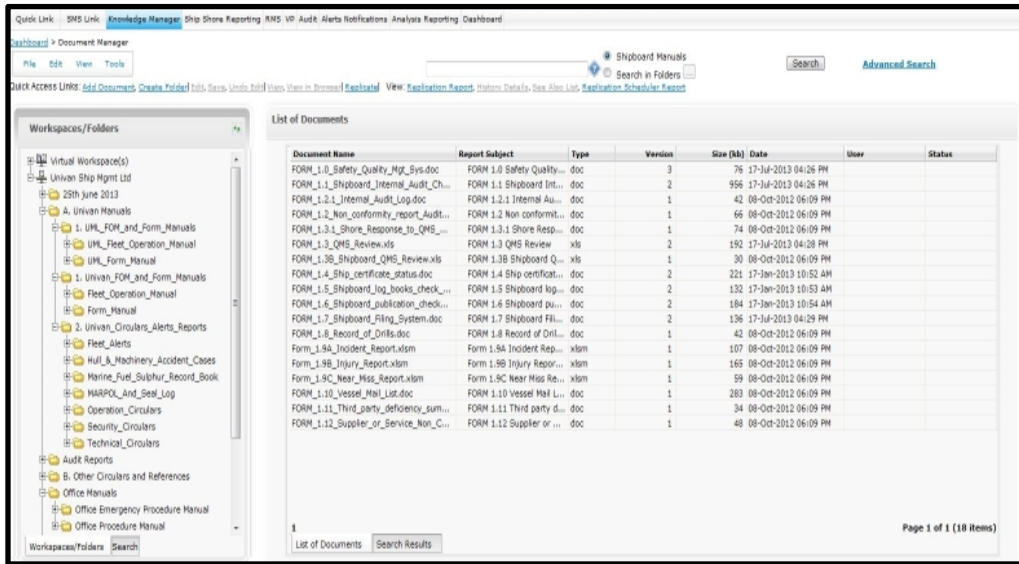
S.No.	Requirements - Mandatory Compliance	Element of Administrative Burden	Technological Solution and Additional Benefits	Application Name, Link
5	STCW 2010,MLC 2006 - Monitoring of work rest hours, reporting to shore and trend analysis	<ol style="list-style-type: none"> 1. Trend Analysis 2. Rest Hour Planning 	<ol style="list-style-type: none"> 1. Provides for monitoring of vessels performance by shore offices; 2. Coupled with functionalities enabling planning of work rest either through outsourced shore based service or by master on board 	RHMS
6	FAL Convention and Local regulations require to submit arrival departure information pertaining to crew, their details etc.	<ol style="list-style-type: none"> 1. Repetitive task of filing and submitting same information in different formats 2. Information sharing and maintaining records 	<ol style="list-style-type: none"> 1. Electronic Forms generated with pre-populated data stored in central repository for arrival departure port paper work ; 2. Formatted to take into account requirements as per IMO FAL convention and various country specific forms; Requisite form gets generated with a click; 3. Can be coupled with SaaS model and paper work can be outsourced to a shore based agency 	Port Forms
7	Chapter V of SOLAS, TMSA, OCIMF guidelines, ISPS code require monitoring of passage plan and ship tracking	<ol style="list-style-type: none"> 1. Monitoring of passage plan w.r.t. actual track of vessel 	<ol style="list-style-type: none"> 1. Spatial Data Management to track vessels from shore against her passage plan; Tracking available for actual vessel position for as small interval as 15 mins to 24 hrs 2. Integrated with modules like Port Forms, vessels particulars for seamless data exchange 	Vesttrak

Compliance Requirements – Burden Elements & Available Electronic Solutions



S.No.	Requirements - Mandatory Compliance	Element of Administrative Burden	Technological Solution and Additional Benefits	Application Name, Link
8	SOLAS, Flag State, Commercial bodies require vessels to have all ship's particulars, trading certificates available	1. Filing and Record keeping	<ol style="list-style-type: none"> 1. Application that store, displays and enable printing of print of vessel particulars and certificates; 2. Details can be in viewed and reported in popular formats like OCIMF HVPQ, Baltic 99 etc. 3. Alerts notifying expiry of certificates so that inspections, surveys can be planned effectively 	Vessel Particulars
9	Beyond Requirements - Feature to carry Entire contacts, their addresses, ship details, associated contacts and network in your phone, tablet		<ol style="list-style-type: none"> 1. One stop application for contact management and instant access to stakeholders details from your phone, tablet, and hand held device 	MIS

Glimpse of Such a Solution



Quick Link: SMS Link Knowledge Manager Ship Shore Reporting RMS VP Audit Alerts Notifications Analysis Reporting Dashboard

Document Manager

File Edit View Tools

Shipboard Manuals Search Advanced Search

Search in Folders

Workspaces/Folders

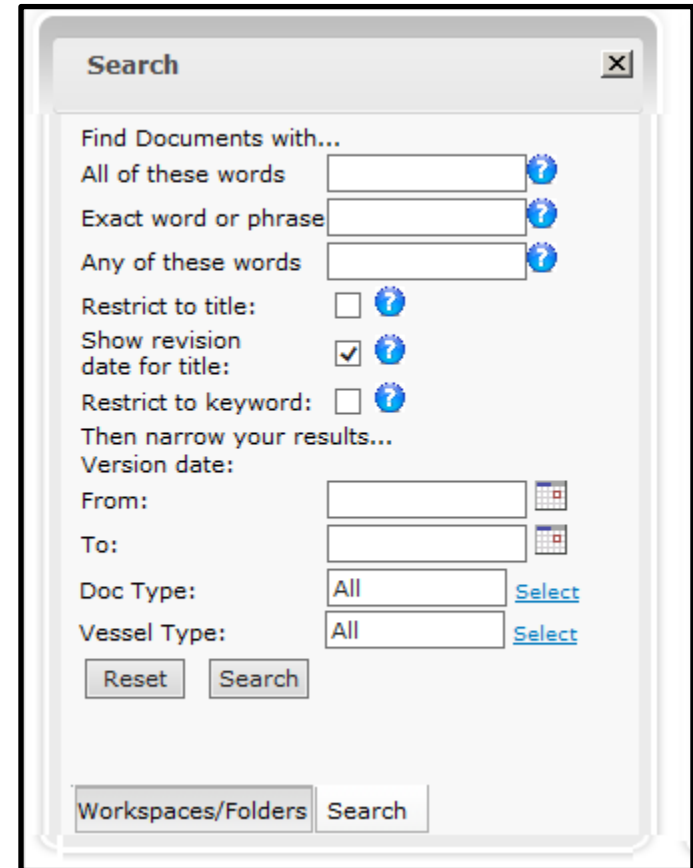
- Virtual Workspace(s)
- Univan Ship Mgmt Ltd
- 25th June 2013
- A. Univan Manuals
 - 1. UML_FOM_and_Form_Manuals
 - UML_Fleet_Operation_Manual
 - UML_Form_Manual
 - 1. Univan_FOM_and_Form_Manuals
 - Fleet_Operation_Manual
 - Form_Manual
 - 2. Univan_Circulars_Alerts_Reports
 - Fleet_Alerts
 - Hull_and_Machinery_Accident_Cases
 - Marine_Fuel_Subpur_Record_Book
 - MARPOL_and_Seal_Log
 - Operation_Circulars
 - Security_Circulars
 - Technical_Circulars
- Audit Reports
- B. Other Circulars and References
- Office Manuals
 - Office Emergency Procedure Manual
 - Office Procedure Manual

List of Documents

Document Name	Report Subject	Type	Version	Size (kb)	Date	User	Status
FORM_1.0_Safety_Quality_Mgt_Sys.doc	FORM 1.0 Safety Quality...	doc	3	76	17-Jul-2013 04:26 PM		
FORM_1.1_Shipboard_Internal_Audit_Ch...	FORM 1.1 Shipboard Int...	doc	2	956	17-Jul-2013 04:26 PM		
FORM_1.2.1_Internal_Audit_Log.doc	FORM 1.2.1 Internal Au...	doc	1	42	08-Oct-2012 06:09 PM		
FORM_1.2_Non_conformity_report_Audit...	FORM 1.2 Non conformit...	doc	1	66	08-Oct-2012 06:09 PM		
FORM_1.3.1_Shore_Response_to_QMS...	FORM 1.3.1 Shore Resp...	doc	1	74	08-Oct-2012 06:09 PM		
FORM_1.3_QMS_Review.xls	FORM 1.3 QMS Review	xls	2	152	17-Jul-2013 04:38 PM		
FORM_1.3B_Shipboard_QMS_Review.xls	FORM 1.3B Shipboard Q...	xls	1	30	08-Oct-2012 06:09 PM		
FORM_1.4_Ship_certificate_status.doc	FORM 1.4 Ship certificat...	doc	2	221	17-Jan-2013 10:52 AM		
FORM_1.5_Shipboard_log_books_check...	FORM 1.5 Shipboard log...	doc	2	132	17-Jan-2013 10:53 AM		
FORM_1.6_Shipboard_publication_check...	FORM 1.6 Shipboard pu...	doc	2	184	17-Jan-2013 10:54 AM		
FORM_1.7_Shipboard_Filing_System.doc	FORM 1.7 Shipboard Fil...	doc	2	136	17-Jul-2013 04:29 PM		
FORM_1.8_Record_of_Drifts.doc	FORM 1.8 Record of Drift...	doc	1	42	08-Oct-2012 06:09 PM		
Form_1.8A_Incident_Report.xlsm	Form 1.8A Incident Rep...	xlsm	1	107	08-Oct-2012 06:09 PM		
Form_1.8B_Injury_Report.xlsm	Form 1.8B Injury Repor...	xlsm	1	165	08-Oct-2012 06:09 PM		
Form_1.9C_Near_Miss_Report.xlsm	Form 1.9C Near Miss Re...	xlsm	1	59	08-Oct-2012 06:09 PM		
FORM_1.10_Vessel_Mail_List.doc	FORM 1.10 Vessel Mail L...	doc	1	283	08-Oct-2012 06:09 PM		
FORM_1.11_Third_party_deficiency_sum...	FORM 1.11 Third party d...	doc	1	34	08-Oct-2012 06:09 PM		
FORM_1.12_Supplier_or_Service_Non_C...	FORM 1.12 Supplier or ...	doc	1	48	08-Oct-2012 06:09 PM		

Page 1 of 1 (10 Items)

Knowledge Manager – Centralized Repository Tree Structure with Virtual Spaces



Search

Find Documents with...

All of these words

Exact word or phrase

Any of these words

Restrict to title:

Show revision date for title:

Restrict to keyword:

Then narrow your results...

Version date:

From:

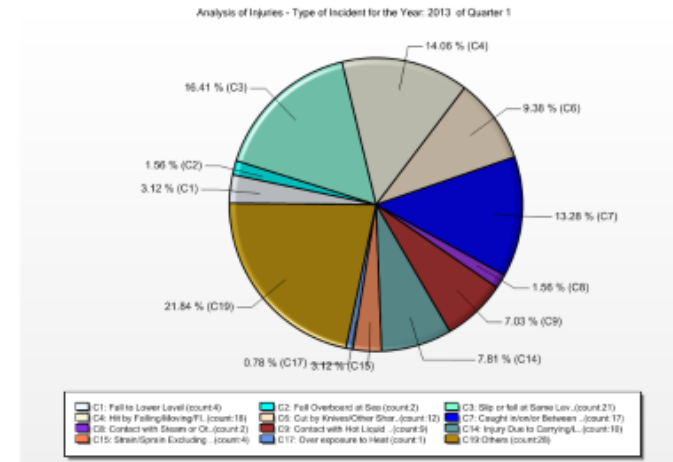
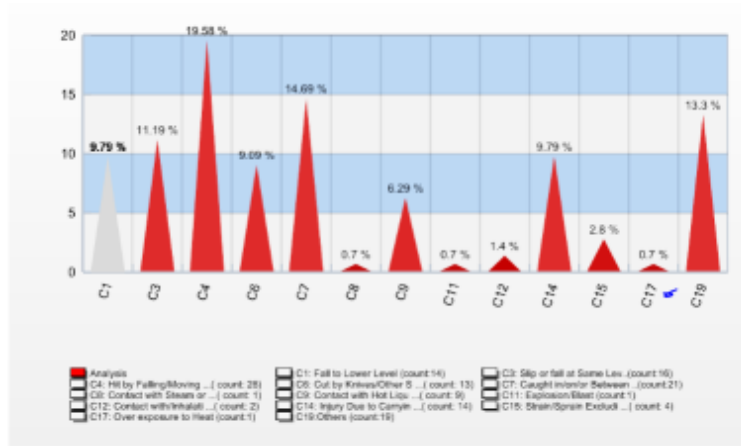
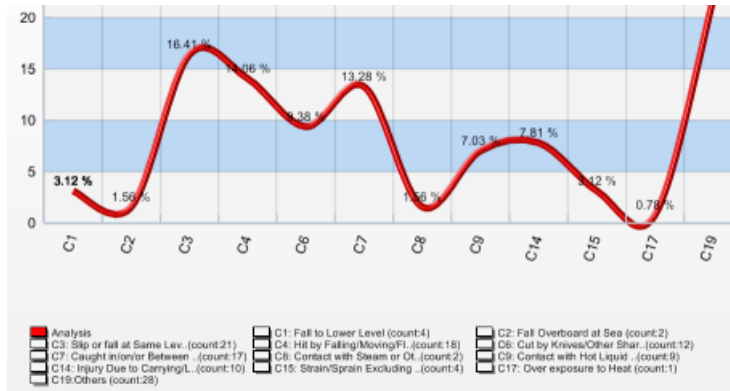
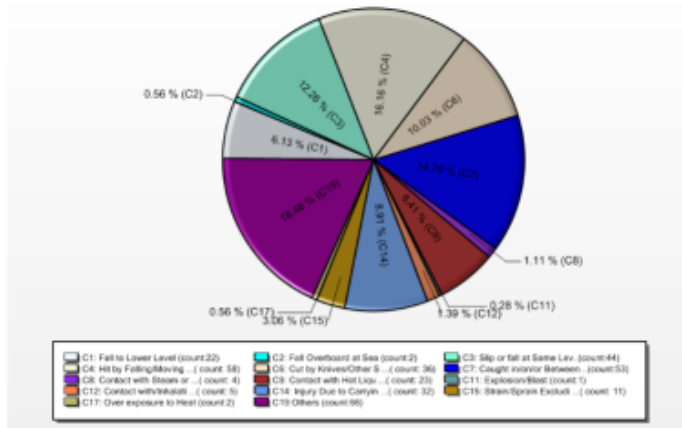
To:

Doc Type: [Select](#)

Vessel Type: [Select](#)

- **Advanced Search Capabilities**
 - **Title Search**
 - **Keyword Search**
 - **Operator Search**

Ship Shore Reports – Analysis & Trends



Audit System - Planning

- Application that plans for audits based on anniversary dates.
- Allows flexibility to view planned line items and prioritize depending upon their stage – overdue, due etc.
- Assign/Reassign an auditor depending upon his availability, location

Audit System > Schedule Audit

Quick Links: [Upload Signature](#) [Add New Audit/Inspection](#) [Add New External Audit](#) [Auditors Available](#)

Schedule Audit

Select Audit / Inspection Type: Due Date From: Due Date To:

Select Audit Name: Legends: Overdue (26) Due (101)
New In Mgmt (0) In Process (*)

[Export To Excel](#) [Print](#) [Hide Columns](#)

Search

Report Type	Nationality	Mgmt Office	Vessel Type	Vessel Name	Last Audit Date	Auditor (Last Audit)	2nd Last Audit Date	Auditor (2nd Last Audit)	Due date	Planned Start Date	Planned End Date	Location	Status	Auditor	Region	Remarks	Action
ISM / SEP		AESMSPE	Oil / Product Tanker	M.V. MAERSK HEWA	10/Feb/2012	Ankush DUA			10/Feb/2013			View		Add	Add	Add	
ISM / SEP		AESMHKG	General Cargo Ship	M.V. Talmas	03/Mar/2012	Girish Munjal	29/Mar/2011	Manish Rohatgi	03/Mar/2013			View		Add	Add	Add	
ISM		AESMSPE	Oil / Product Tanker	M.V. FRIO					04/Mar/2013			View		Add	Add	Add	
ISM / SEP		AESMHKG	Container Carrier	M.V. Italy Express	06/Mar/2012	Amit Gulati	19/Mar/2011	Puneet Malhotra	06/Mar/2013			View		Add	Add	Add	
ISM / SEP		AESMHKG	General Cargo Ship	M.V. Saga Voyager	06/Mar/2012	Sanjiv Behl	26/Feb/2011	Sarat KUMAR	06/Mar/2013			View		Add	Add	Add	
ISM / SEP		AESMANP	Bulk Carrier	M.V. MINERAL STONEHENGE	15/Mar/2012	Milan Chaddha	25/Mar/2011	Amit Gulati	15/Mar/2013			View		Add	Add	Add	
ISM / SEP		AESMHKG	Bulk Carrier	M.V. CMB MISTRAL	21/Mar/2012	Deepak Sethi	12/Apr/2011	Amit Gulati	21/Mar/2013			View		Add	Add	Add	
ISM / SEP		AESMSPE	Chemical / Product Tanker	M.V. Fairchem Charger	21/Mar/2012	Kuldeep Rai	27/Mar/2011	Amit Chaudhary	21/Mar/2013			View		Add	Add	Add	
ISM / SEP		AESMHKG	Bulk Carrier	M.V. EXCEL	22/Mar/2012	Oleksandr Davydyuk			22/Mar/2013			View		Add	Add	Add	
ISM / SEP		AESMHKG	Heavy Lift Carrier	M.V. Triumph DW	23/Mar/2012	HEMANT MAUSKAR	01/May/2011	Amit Gulati	23/Mar/2013			View		Add	Add	Add	

Total Record: 128 - Per Page: 100 Page 1 of 2

- Ability to notify and remind auditors before certain days automatically
- Ability import database in excel

Risk Assessment & Daily Work Planning



Operation Groups
Tasks
Hazards
RA Sheets
Checklists/Procedures
Work Permits

Work Planning

Work Planning
Safety Precaution Sheet

Export/Import

Approved Documents
Awaiting Approval
History
RA Sheets
Checklists/Procedures
Work Permits

Ship Specific Checklist [Cancel](#) [Export in MS Word](#) [Export in MS Excel](#)

Operation Group: LNG - CARGO OPERATIONS

Task: LNG00001 - CARGO OPERATIONS

Code: OFF-LNG-APP-01Jan12-111359

Prepared By: Master Revision No.: 1

Approval Status: by Superintendent Date: 01-Jan-2012

Work Planning

Please select the date for carrying out job: 15-Feb-2014 [Click here to plan jobs](#) [Edit RA Sheet](#)

Checklists

[All Checklist](#)

OME Checklist 015 - CARGO ENGINEER'S PRE-ARRIVAL CHECKLIST

OME Checklist 016 - CARGO ENGINEER'S DEPARTURE CHECKLIST

OME Checklist 017 - LNG/LPG – CHANGE OF WATCH DURING CARGO

Selected

1. [OME Checklist 003 - LNG ENGINE CHECKLIST PRIOR ARRIVAL / DEPARTURE](#)
2. [OME Checklist 017 - LNG/ LPG – CHANGE OF WATCH DURING CARGO OPERATION](#)

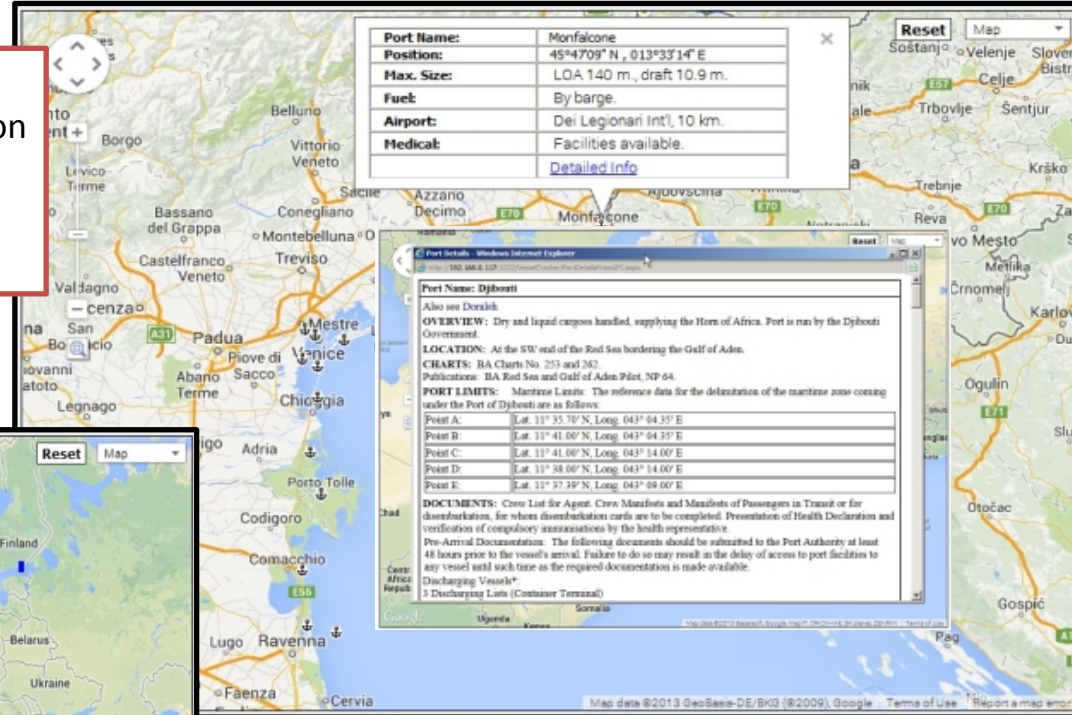
Hazards

No.	Hazard	Consequence	Initial Risk		Ref. to Procs.	Existing Control	Add to Job	Final Risk		Additional Measures
			Risk Category	Risk Ranking				Risk Category	Risk Ranking	
1.	Unsafe gangway	Accidents	People	Low Risk		Regular monitoring by the deck watchkeeper	<input type="checkbox"/>	People	Very Low Risk	
			Environment	Very Low Risk				Environment	Very Low Risk	
			Property	Low Risk				Property	Very Low Risk	
			Business	Very Low Risk				Business	Very Low Risk	
2.	Low temperature for	Brittle Fracture	People	Very High Risk		Cooling Down	<input type="checkbox"/>	People	Low Risk	
			Environment	Very High Risk				Environment	Low Risk	

Performing Work Planning Repository of Risk Assessment
 Ability to exchange, distribute RA sheets between ship and shore

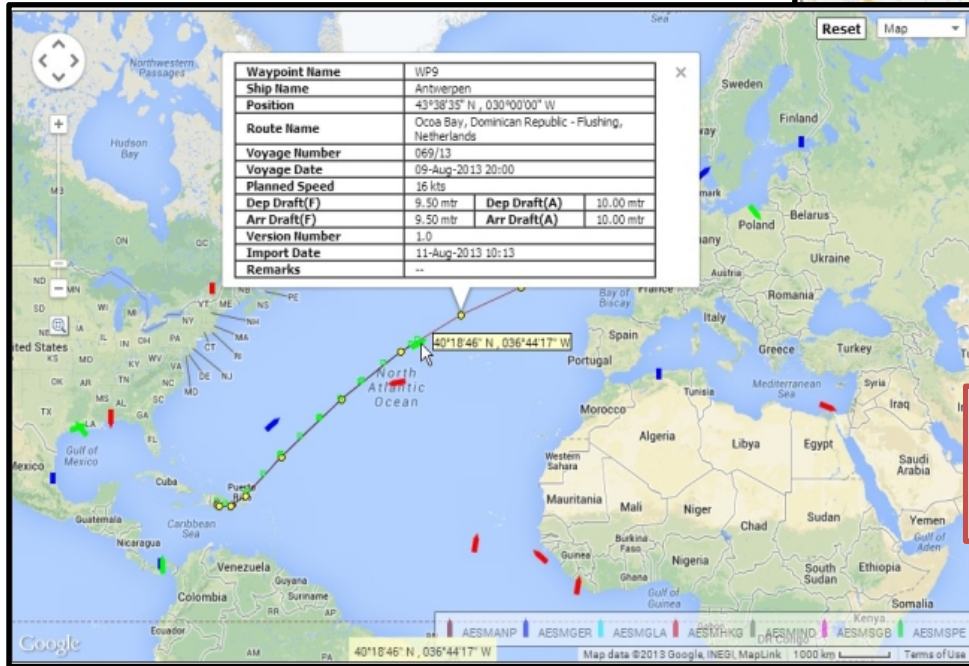
Vesttrak – Passage Plan / Port Information

Vesttrak has country wise ports list. It provides precise information of various facilities available on port. (FindAPort Integration) - This information is all about Port limits, ISPS compliances, max size, restrictions, and facilities available on it.



Port Name: Monfalcone
Position: 45°47'09" N, 013°33'14" E
Max. Size: LOA 140 m., draft 10.9 m.
Fuel: By barge.
Airport: Dei Legionari Int', 10 km.
Medical: Facilities available.
[Detailed Info](#)

Port Name: Djibouti
Overview: Dry and liquid cargoes handled, supplying the Horn of Africa. Port is run by the Djibouti Government.
Location: At the SW end of the Red Sea bordering the Gulf of Aden.
Charts: RA Charts No. 253 and 262
Publications: RA Red Sea and Gulf of Aden Pilot, NP 64
Port Limits: Maritime Limits: The reference data for the delimitation of the maritime zone coming under the Port of Djibouti are as follows:
 Point A: Lat. 11° 35.70' N, Long. 043° 04.35' E
 Point B: Lat. 11° 41.00' N, Long. 043° 04.35' E
 Point C: Lat. 11° 41.00' N, Long. 043° 14.00' E
 Point D: Lat. 11° 38.00' N, Long. 043° 14.00' E
 Point E: Lat. 11° 27.39' N, Long. 043° 09.00' E
Documents: Crew List for Agent, Crew Manifests and Manifests of Passengers in Transit or for disembarkation, for whom disembarkation cards are to be completed, Presentation of Health Declaration and verification of compulsory vaccinations by the health representative.
Pre-Arrival Documentation: The following documents should be submitted to the Port Authority at least 48 hours prior to the vessel's arrival. Failure to do so may result in the delay of access to port facilities to any vessel until such time as the required documentation is made available.
 Discharging Vessel*
 Discharging Lists (Container Terminal)



Waypoint Name: WPS9
Ship Name: Antwerpen
Position: 43°38'35" N, 030°00'00" W
Route Name: Ocoa Bay, Dominican Republic - Flushing, Netherlands
Voyage Number: 069/13
Voyage Date: 09-Aug-2013 20:00
Planned Speed: 16 kts
Dep Draft(F): 9.50 mtr **Dep Draft(A):** 10.00 mtr
Arr Draft(F): 9.50 mtr **Arr Draft(A):** 10.00 mtr
Version Number: 1.0
Import Date: 11-Aug-2013 10:13
Remarks: --

Vesttrak system is able to show passage plan on map and allows a user to compare it against actual, current position of the vessel

Port Forms– IMO & Country Specific Forms



Quick Link | SMS Link | Knowledge Manager | Ship Shore Reporting | RMS | VP | **Port Forms** | Audit System | Vessel Tracker

Form Categories

IMO Forms

Country Specific Forms

Favorite Forms

Recently Published Forms

Administration

Published Port Form Package

IMO Forms

Form Name

[Cargo Declaration FALForm2](#)

[Crew List FALForm5](#)

[Crew's Effects Declaration FALForm4](#)

[IMO Dangerous Goods FALForm7](#)

[IMO General Declaration FALForm1](#)

[IMO Maritime Declaration of Health](#)

[IMO Passenger List FALForm6](#)

[IMO Vaccination List Form](#)

[List of Narcotics](#)

[Ports of Call](#)

[Ship's Stores Declaration FALForm3](#)

Country Specific Forms | Form Name: | Form ID: | Country: All

Form Name	Country Name	Form Version	Form ID	Action	History
Cargo Declaration Form Inward (CBP 1302)	United States	06/09	CBP Form...	Add To Favorite	Show History
Cargo Declaration Form Outward (CBP 1302A)	United States	06/09	CBP Form...	Add To Favorite	Show History
Crew Effects Declaration (CBP 1304)	United States	06/09	CBP Form...	Add To Favorite	Show History
General Declaration (CEP 1301)	United States	3-9-78	Customs ...	Add To Favorite	Show History
Ship's Stores Declaration (CBP 1303)	United States	06/09	CBP Form...	Add To Favorite	Show History
Maritime Declaration of Health	Turkey			Add To Favorite	Show History
Declaration of Waste Residues Annex II(Ship'...	Spain			Add To Favorite	Show History
Ship Pre Arrival Information ISPSCODE	Spain			Add To Favorite	Show History
Crew List (Form 22)	Singapore		Form 22	Add To Favorite	Show History
Dangerous Cargo Manifest	Riourto	04/04/02	DMU-EN-0...	Add To Favorite	Show History
Crew List - Immigration regulations	Malaysia		Imm 23-...	Add To Favorite	Show History
Crew Effects Declaration	Kenya			Add To Favorite	Show History
Ship's Stores Declaration	Kenya			Add To Favorite	Show History
Ship Pre-Arrival Security Information Form	Italy			Add To Favorite	Show History
Sanitary Declaration	Italy			Add To Favorite	Show History
Waste Declaration	Italy			Add To Favorite	Show History

(45 items)

Save | Print | Save As... | Reset

IMO CREW LIST
(IMO FAL Form5)

Arrival Departure Page 1 of 1

1.1 Name of ship Test_vessell		1.2 IMO number 1210012	
1.3 Call sign		1.4 Voyage Number	
2. Port of arrival/departure Dures		3. Date of arrival/departure	
4. Flag State of ship		5. Last port of call	

6. No.	7. Family name, given names	8. Rank or rating	9. Nationality	10. Date and place of birth	11. Nature and No. of identity document
1	Haq Asrarul	Ast POER	Indian	01-Jul-1963 Ballia	F 6229986
2	Mishra Rama Jaiswal	Ast POER	Indian	30-Mar-1974 Azamgarh	G 3404009

Controls

Select Country and Port to fill this form

Select Country :

Select Port :

OK Cancel

Companies using such solution



Installed and
Running Successfully
on 850+ Ships



- Paperless Office and Ships
- Electronic Data Management
- Optimizing Information Search Process
- Dashboard, Alerts and Notifications
- Anywhere , Anytime Accessibility
- Compliance with Maritime Regulations
 - *ISM / ISPS / SOLAS / MARPOL / STCW / ILO*
- Ensure Safe, Reliable and Efficient Ship Operation
- Effective Tool for Decision Support
- Flexibility and Adaptability to **YOUR** business processes



And that too

At an easily affordable price



Thank you



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