

24TH ANNUAL GLOBAL
NAUTICAL SYSTEMS

USER 
CONFERENCE

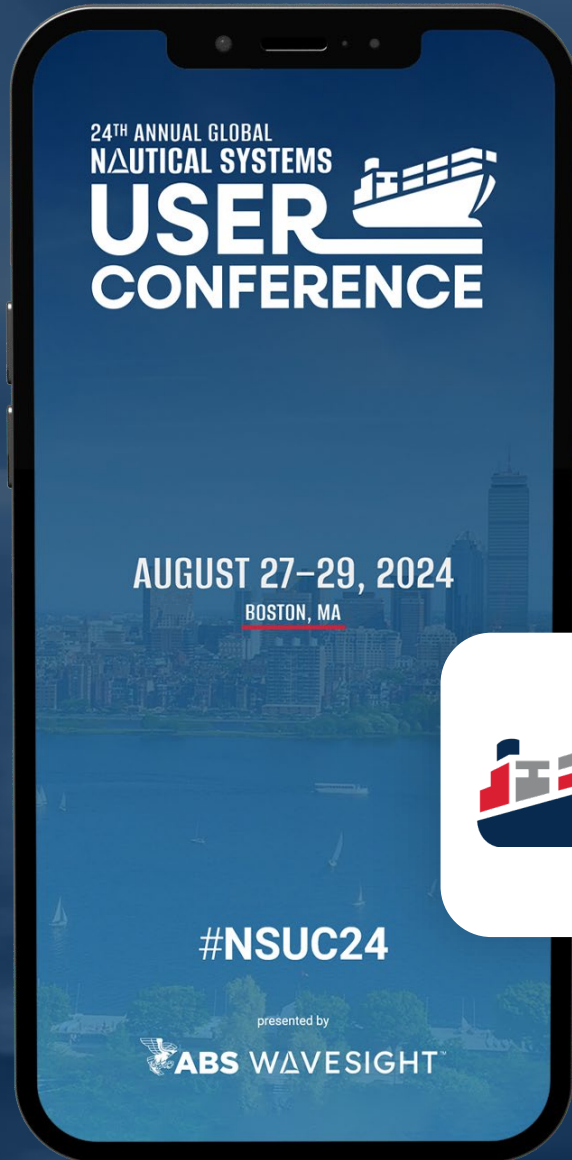
Data Governance & Managing the System

Antonios | Nadia

9/12/2024

Presented by





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Manager, Professional Services

Antonios is leading the technical aspects of the PS Team, he manages the consulting team in America. He has 24+ year of experience in the software and maritime industry.



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Manager, Senior Program

Nadia is managing the consulting team in EMEA and APAC. She has 20+ years of experience in the software and maritime industry.

Data Governance & Managing the System

Data Governance	13:30 – 13:45
Managing data and more	13:45 – 14:00
Master Library Concept	14:00 – 14:30
Benefits	14:30 – 14:45
Data Quality Evaluation	14:45 – 15:00

Data Governance





Data Governance

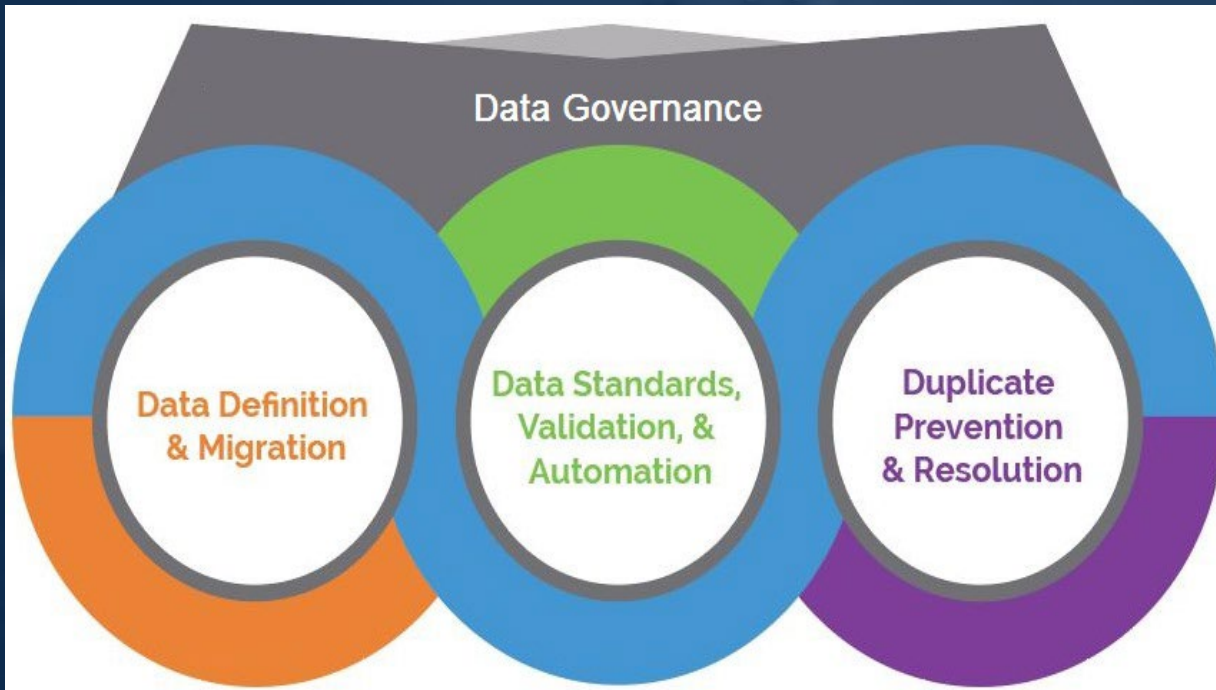
Definition

Data Governance is the overall management of access, distribution, usage, and retention of data, which includes the development and enforcement of policies, standards, and procedures.

Data Governance Mission

ABS Wavesight's data governance mission is to ensure that data assets are:

- Formally, effectively, and proactively managed in a cost-effective, reusable, and repeatable manner;
- Resulting in secure, defined, and quality data that can be utilized to support business operations;
- and in compliance with relevant privacy, regulatory, and contractual requirement

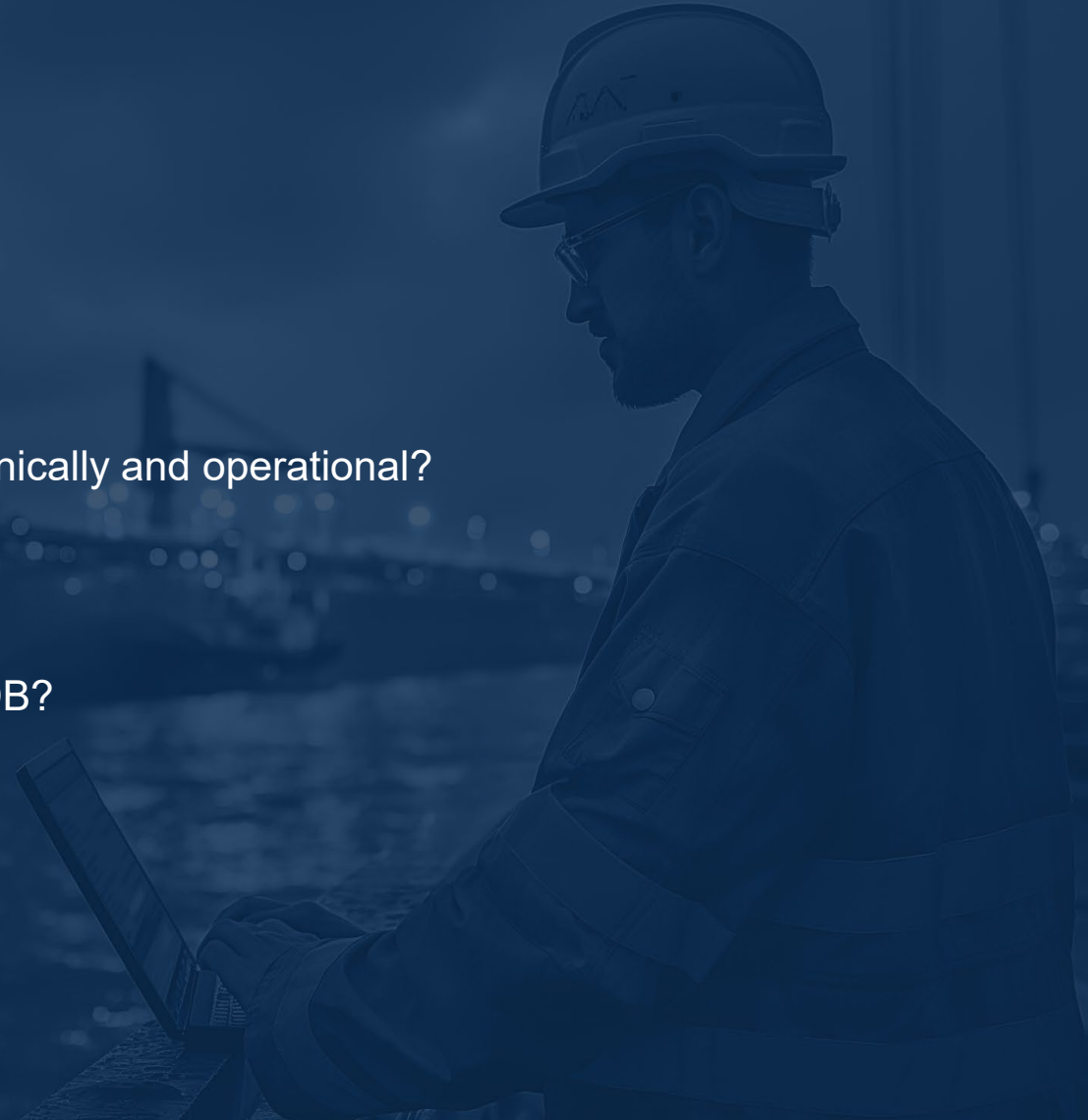


Three Pillars

- Data Definition
- Standards, Validation, and Automation
- Duplication Prevention & Resolution

Data Definition

- Which data is important to the business technically and operational?
- Who are the business owners?
- Who are the technical owners?
- What data flows into and out of the system/DB?

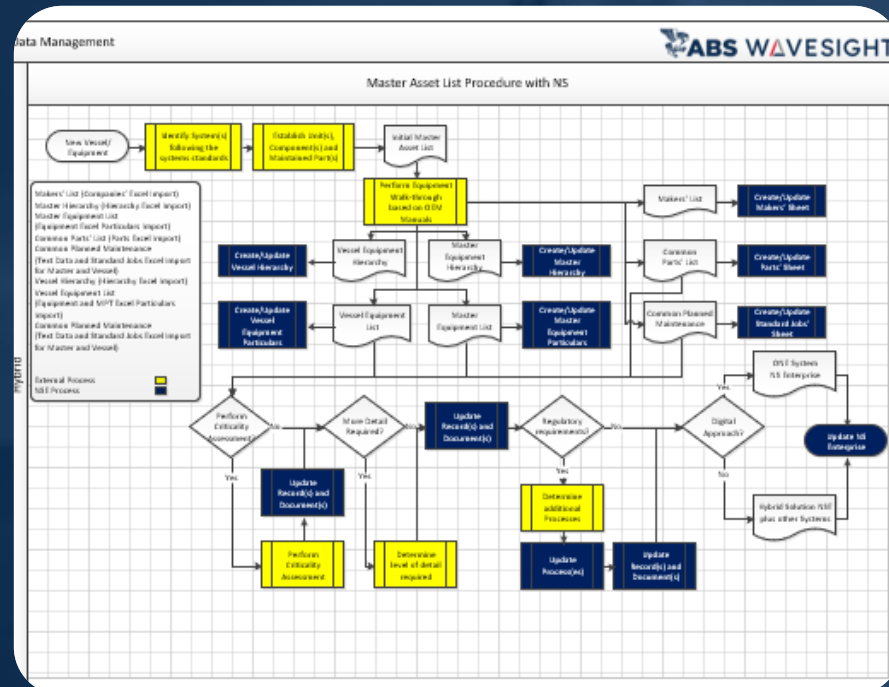


Standards, Validation, and Automation

- Standardized Data Structure for hierarchies, equipment and services, spaces and structures, compliance, DDK and DMS
- Indexing, index terms and more to drive functionality, workflows and reporting
- Records' Naming Convention, for creating and maintaining uniformity across equipment, parts, standard jobs, compliance, text data, etc.
- Validation of system and transactional data (Quality Control)
- Data Collection, Population, Migration

Duplication Prevention & Resolution

- System Preferences
- Data Entry Authorizations, including new authorization which prevents adding duplicate parts
- Dedicated Data Custodians (Data Teams)



Conclusion

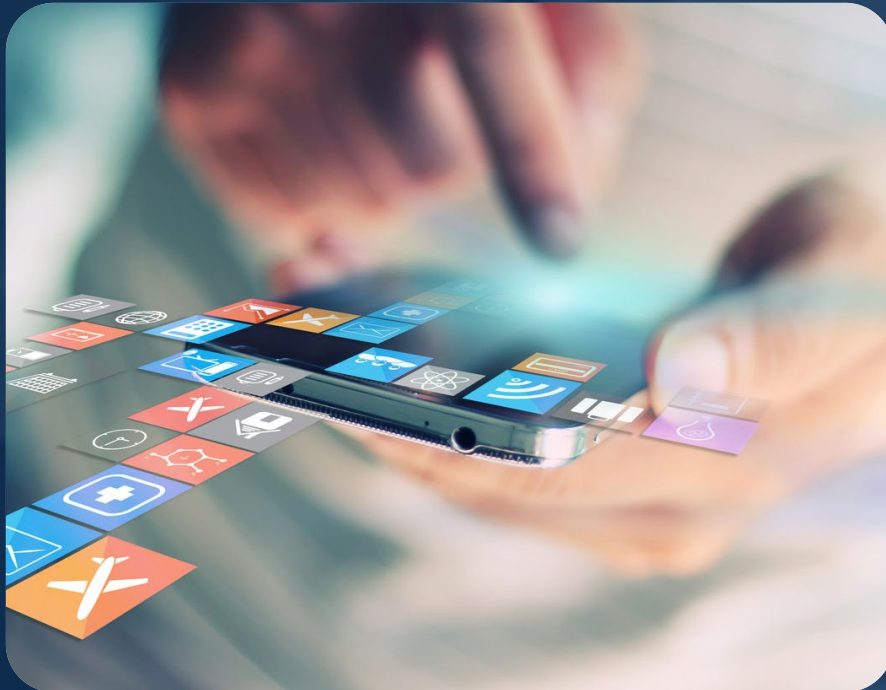
Company specific Data Governance process(es) must be in place to ensure all its benefits



Managing data and more



ABS WAVESIGHT™



Control Data Access

Who accesses the data?

- Users
- User Profiles
- Authorizations
- System Preferences
- Publishing nomenclature rules and policy
- Equipment Particulars Restrictions

☒ Restrict Part Creation

☐ Require Failure RA

☐ Referenced RA Type

☐ Reference RA Template

- Parts & Consumable Items
- ☒ Add Part/Consumable Item File Attachments
 - ☒ Add Parts to Hierarchy
 - ☒ Assign Consumable Item Criticality
 - ☒ Assign Part Criticality
 - ☒ Change Destination Equipment while adding Parts to Hierarchy
 - ☒ Change Part Unit to new Unit Type
 - ☒ Create Consumable Items
 - ☒ Create Consumable Items for Restricted Consumable Types
 - ☒ Create Machinery Parts
 - ☒ Create Machinery Parts for Restricted Equipment
 - ☒ Create Requisition basis of Maximum Levels
 - ☒ Create Requisition basis of Minimum Levels
 - ☒ Create Requisition basis of Reorder Levels
 - ☒ Delete Part/Consumable Item File Attachments
 - ☒ Edit Consumable Items
 - ☒ Edit Consumable Items for Restricted Consumable Types
 - ☒ Edit Machinery Parts
 - ☒ Edit Machinery Parts for Restricted Equipment
 - ☒ Edit Part Attribute Tab Info
 - ☒ Edit Part Level Valuation Method
 - ☒ Materials Classification Set Up
 - ☒ View Machinery Part

Restrict Part Creation

Equipment Particulars > Restrict Part Creation

Authorization Rights > Create and Edit Rights

How to utilize and set better controls?

- Apply restriction on Master Library Equipment
- Designate the create right to the Creators
- Designate the create right to the Editors

Item added to Hierarchy List

Tag Help

1 / 1 (605 Rows of 605) [ALL] Search...

Ship Code	Requisition No.	Part Name	Equipment Name	Designation	Part Number	Reference
	V71000101	OXYGEN SENSOR B11E-A	GAS DETECTION SYSTEM	Part		
	W81000257	Charcoal	CABIN STORES	Item		
	W31000289	PRINTER PAPER FOR NKG-900	GENERAL STORES / IMPA	Item		
	V70000009	Sensor pocket	DIESEL GENERATOR No3	Part	060L327166	DANFOSS MARINE S
	V70000036	Space protected by foam	GENERAL STORES / IMPA	Item	336861	IMPA
	V70000042	REAGENT KIT FOR TRO SENSOR	SPECIAL CHEMICALS	Part	900-100-001-008	CHEMICAL
	V70000057	M/E EGR Calibration Gas O2	MAIN ENGINE	Part		
	V70000062	OCTAMAR LI-5	INNOSPEC	Part		
	V70000064	REDUCING VALVE TYPE R41700...	MAIN ENGINE MANEUVERING SYSTEM	Part	763E	mitsui ENGINEERIN
	V70000064	FILTER NL6-FLS (POS.10)	MAIN ENGINE MANEUVERING			
	V70000064	5/2 WAY VALVE (POS.12)371075...	MAIN ENGINE MANEUVERING			
	V70000064	DOUBLE CHECK VALVE(POS.23)...	MAIN ENGINE MANEUVERING			
	V70000064	3/2 WAY SOLENOID VALVE(POS...	MAIN ENGINE MANEUVERING			
	V70000064	REDUCING VALVE(POS.61)R499...	MAIN ENGINE MANEUVERING			
	V70000064	3/2 WAY SOLENOID VALVE(POS...	MAIN ENGINE MANEUVERING			
	V70000064	FILTER NL4-FLS(POS.E9-A2)	MAIN ENGINE MANEUVERING			
	V70000064	RELAY VALVE(POS.E9-A3)RR-8-3...	MAIN ENGINE MANEUVERING			
	V70000068	SHIFTING WIRE L2	ROPES, WIRES AND TAILS	Item		
	V70000068	SHIFTING WIRE L3	ROPES, WIRES AND TAILS	Item		
	V70000068	SHIFTING WIRE L5, L6	ROPES, WIRES AND TAILS	Item		
	V70000068	SHIFTING WIRE L4, L7	ROPES, WIRES AND TAILS	Item		
	V70000073	HOSE PVC TETORON REINFOR...	GENERAL STORES / IMPA	Item		

[4] Select Equipment

Search...

Ship	Equipment Code	Equipment
SEADUKE	31.11	MAIN ENGINE MANEUVERIN...
SEADUCHESS	31.11	MAIN ENGINE MANEUVERIN...
MASTER LIBRARY	MITE.02.001	U8 MITSUI (M/E MANEUVE...
MASTER LIBRARY	MITE.02.002	U8 MITSUI (M/E MANEUVE...

Select Print Help

Add parts to hierarchy

Maintenance and Purchasing > Tools Menu

Parts to be added to Hierarchy

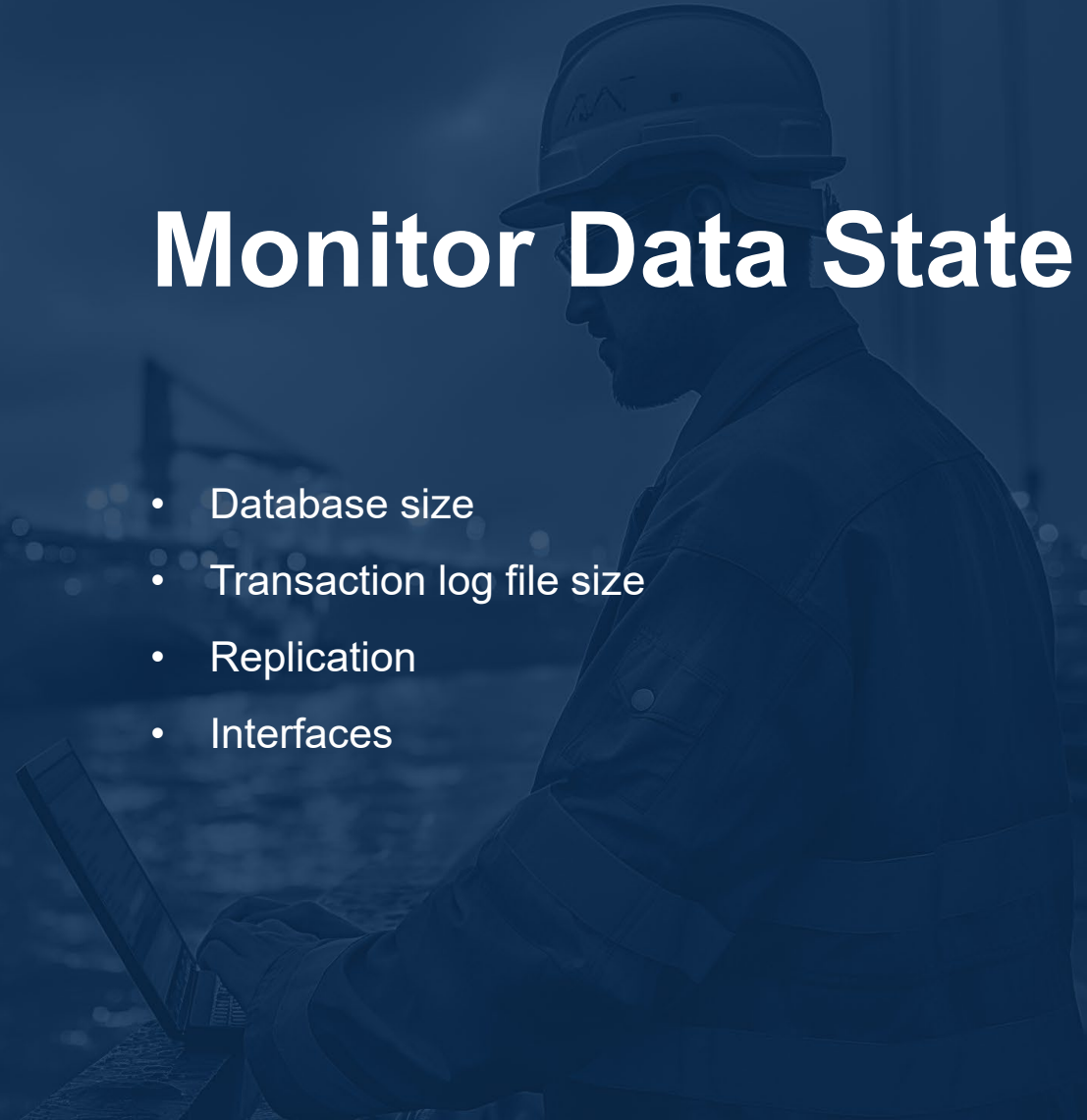
How to keep the dataset clean?

Reclassify, select the Master Library equivalent equipment or consumable type where the part or item belongs.



Monitor Data State

- Database size
- Transaction log file size
- Replication
- Interfaces





Secure Data

- Network security protocols
- Access (SSO, MFA, etc.)
- Database Credentials and Encryption
- Replication and Encryption
- Cybersecurity



Master Library Concept



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Data Build Challenge

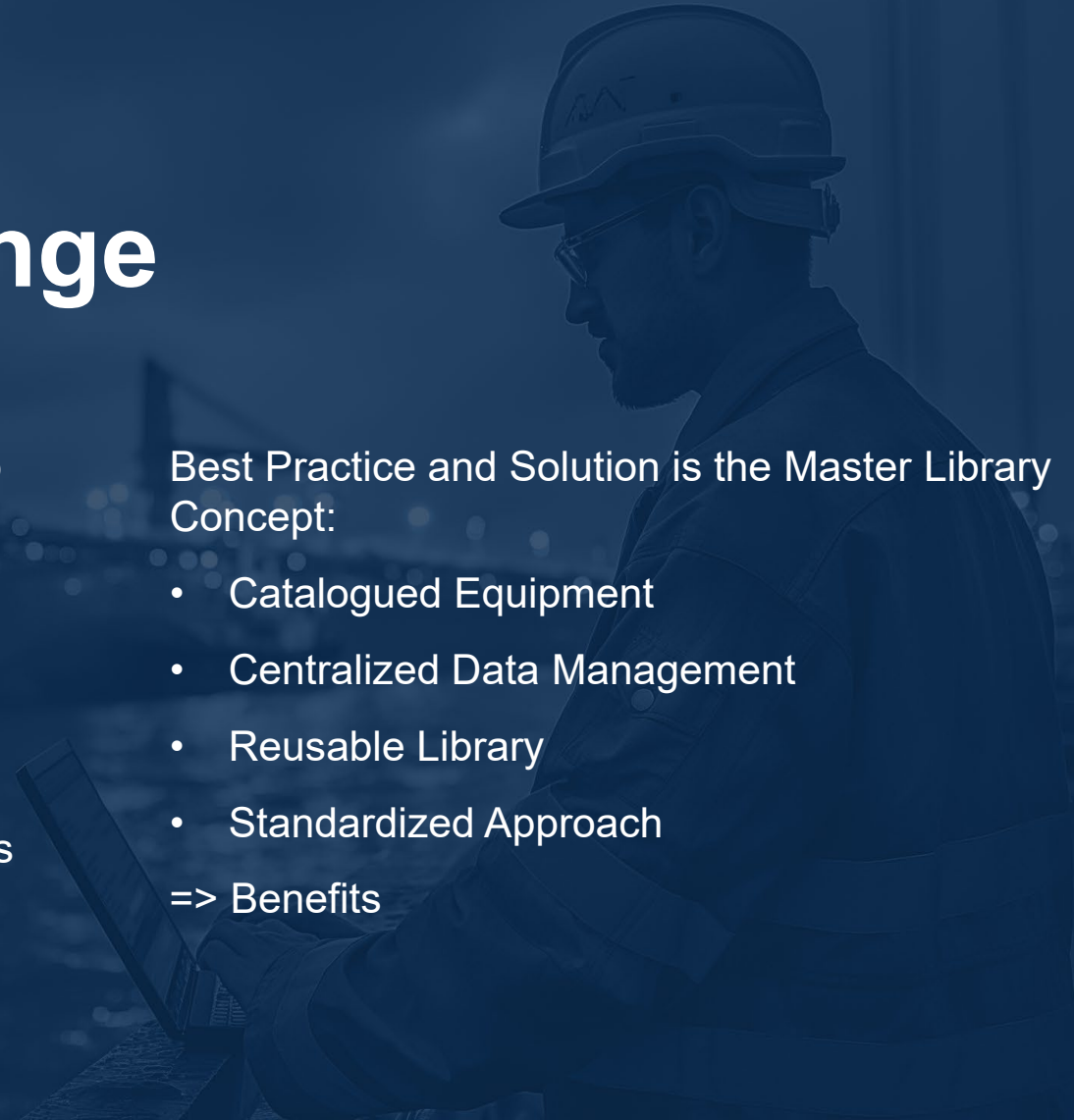
Problem: Build a complete dataset for each ship

- is effort and time consuming
- is costly in data management
- complicates data governance
- allows inconsistencies and mistakes
- complicates interfaces with 3rd party systems

Best Practice and Solution is the Master Library Concept:

- Catalogued Equipment
- Centralized Data Management
- Reusable Library
- Standardized Approach

=> Benefits





Benefits

- Data Consistency
- Functional Structure
- Operational Efficiency
- Process Enforcement
- Maximize Business Value



Master Library Approach?

What is the Master Library?

- ONE catalogue of ALL equipment for the owner's or operator's fleet as a single asset in NSE.
- The single PLACE for the data management operations
- The cross-reference SPOT to all functional fleet equipment for sharing of parts' lists
- The Standard Job Copy STARTING POINT for sharing preventive maintenance across fleet's equipment

Master Library Approach Includes?

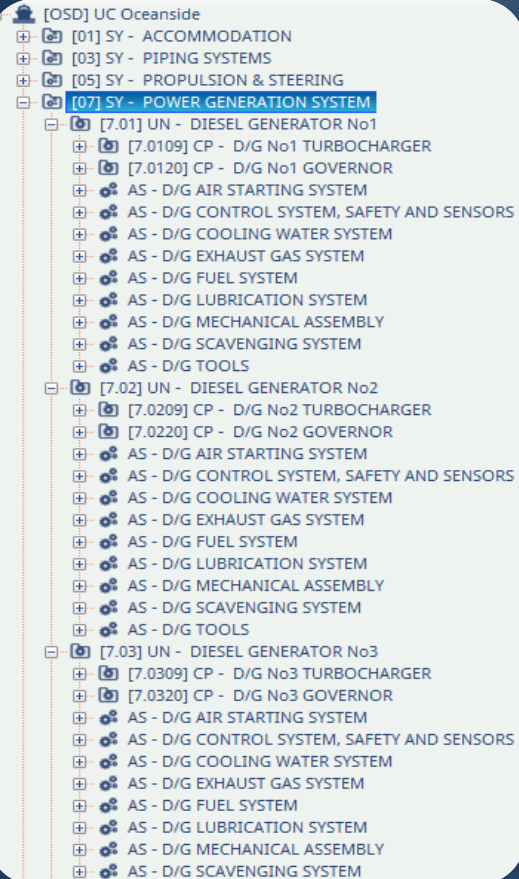
Master Library includes as per best practice:

- Standard equipment particulars information (name plate, account codes, buyer group, indexes, etc.)
- Complete parts' list and fleetwide consumable catalogues
- Manufacturer preventive planned maintenance

Master Library Approach Benefits?

- Data Consistency
- Functional Structure
- Operational Efficiency
- Process Enforcement
- Maximize Business Value





Traditional Vessel Approach

- Vessel / Platform
 - System (SY)
 - Equipment Unit (UN)
 - Equipment (UN / CP)
 - Component (CP)

- [-] [95] CC - CONSUMABLES
 - [+] [95.01] CT - BONDED STORES
 - [+] [95.02] CT - CABIN STORES
 - [+] [95.03] CT - PROVISIONS
 - [+] [95.04] CT - RECREATION ITEMS
- [-] [ABB] SY - ABB
 - [-] [ABB.01] UN - ELECTRIC MOTOR
 - [+] [ABB.01.001] UN - M2QA315S 2A
 - [+] AS - 177-SPARES LIST
 - [+] PT - ELECTRIC MOTOR ABB 127KW
 - [+] AS - 6-AUX. BLOWER SPARES
 - [+] [ABB.01.003] UN - M2QA BPH250M4A
 - [+] [ABB.01.004] UN - M2QA BPH160M 4A
 - [+] [ABB.01.005] UN - M2QA100L 4A
 - [+] [ABB.01.006] UN - M2QA 160L 4A (15 KW)
 - [+] [ABB.01.007] UN - M2QA 160M 4A (11 KW)
 - [+] [ABB.01.008] UN - M2QA 100L 4A (2.2 KW)
 - [+] [ABB.01.009] UN - M2QA90S 6A
 - [+] [ABB.01.010] UN - M2QA 100L 6A (1.5 KW)
 - [+] [ABB.01.011] UN - M2QA 100L 6A (1.5 KW)
 - [+] [ABB.01.012] UN - M2QA 90S 6A (0.75 KW)
 - [+] [ABB.01.013] UN - M2QA 90S 6A (0.75 KW)
 - [+] [ABB.01.014] UN - M2QA132S2A
 - [+] [ABB.01.015] UN - M2QA 112M 6A (2.2 KW)
- [+] [ALFN] SY - ALFA LAVAL AALBORG NI JMEGEN B.V.
- [+] [ANEO] SY - ANEOS CORPORATION
- [+] [ANKM] SY - ANKO MARINE
 - [-] [ANKM.01] UN - LOADICATOR
 - [+] [ANKM.01.001] UN - LOAD PLANNER 3
 - [+] AS - LOADICATOR SPARE PARTS ASSEMBLY
 - [+] PT - 1TB SAMSUNG 860 EVO SSD
 - [+] PT - 2.5" TO 3.5" size bracket adaptor kits f
 - [+] PT - DVD drive Gembird DVD-USB-02
 - [+] PT - HP Elite Desk 800 G2 SFF, Product No: P1
 - [+] PT - NON-MARINE UPS
 - [+] PT - SSDs SAMSUNG EVO 860, 500GB 2.5"
 - [+] PT - UPS to be Marine Type 600VA
- [+] [APPL] SY - APPLIED ELECTRONICS CORPORATION
- [+] [BECK] SY - BECKER MARINE SYSTEMS GMBH. & CO. KG
- [+] [BEMA] SY - BEMAC CORPORATION
- [+] [BITZ] SY - BITZER KÜHLMASCHINENBAU GMBH.

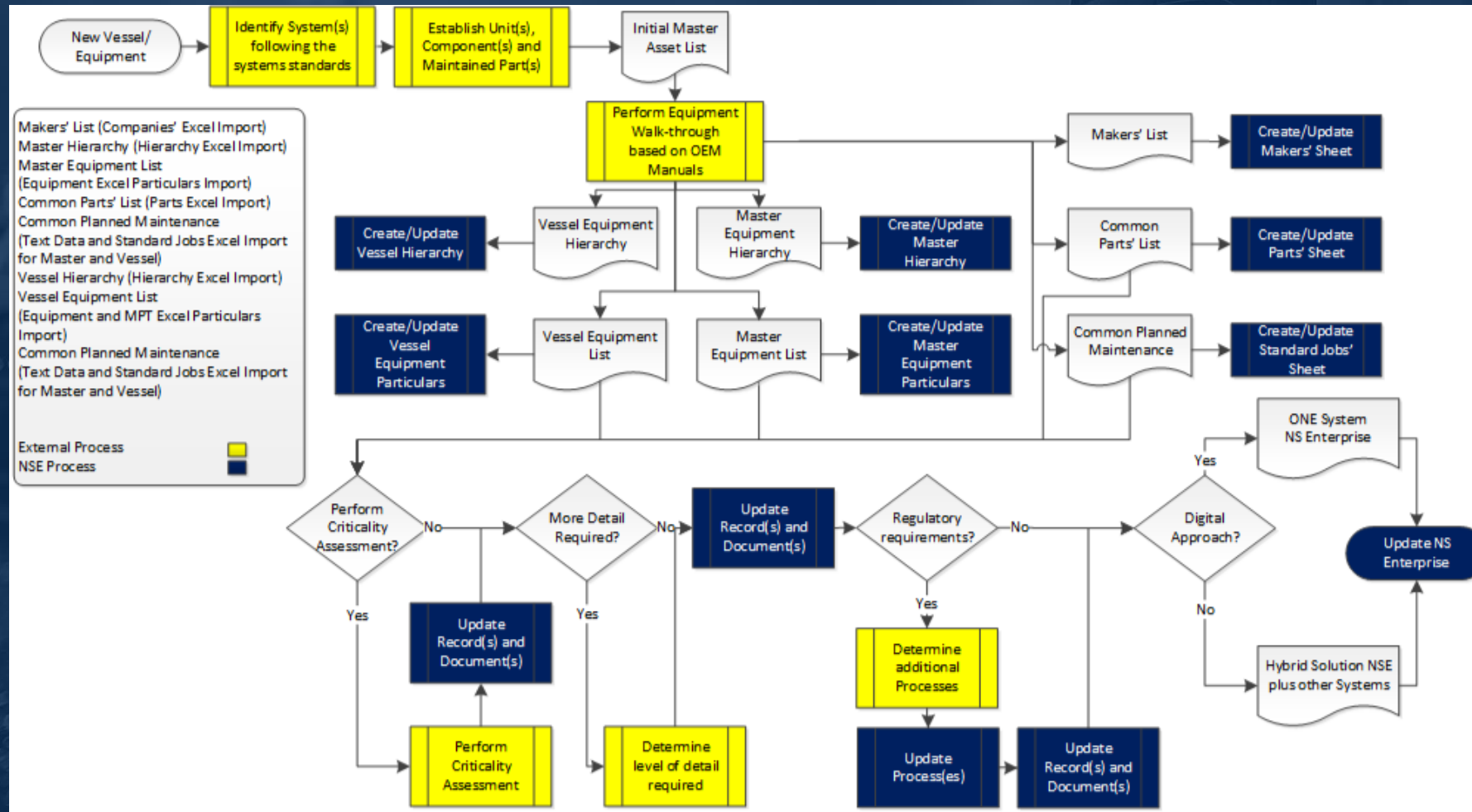
Master Library Hierarchy

- Maker (System)
- Type (Unit)
- Model (Unit)

Master Library Hierarchy Alternatives

- Type (System)
 - Maker (Unit)
 - Model (Unit)
- Maker (System)
 - Model (Unit)

Master Asset Procedure with NS Master Library



Master Library Setup

- Create “Master Library” with Hierarchy:
 - Maker (System Level)
 - Type (Unit Level)
 - Model (Unit Level)
- Create Assemblies, Sub-Assemblies and Parts
- Setup the Maintained Parts
- Associate the Planned Maintenance Jobs
- Utilize Excel Import
 - Hierarchy, Makers, Equipment, Parts , Text Data (html Job Descriptions), Standard Jobs, Maintained Parts
- Interface Facilities
 - Interface Asset Management (Equipment and Parts/Items) and Account Codes

Vessel Setup

- For each actual Vessel create the Hierarchy based on the predefined rules
- Generate the Equipment Particulars with actual nameplate data
- Cross reference Master Library and Vessel Equipment
- Utilize Excel Import
- Hierarchy, Equipment, Parts, Standard Jobs, Maintained Parts
- Interface Facilities
- Interface Asset Management (Equipment and Parts/Items) and Account Codes, Budget

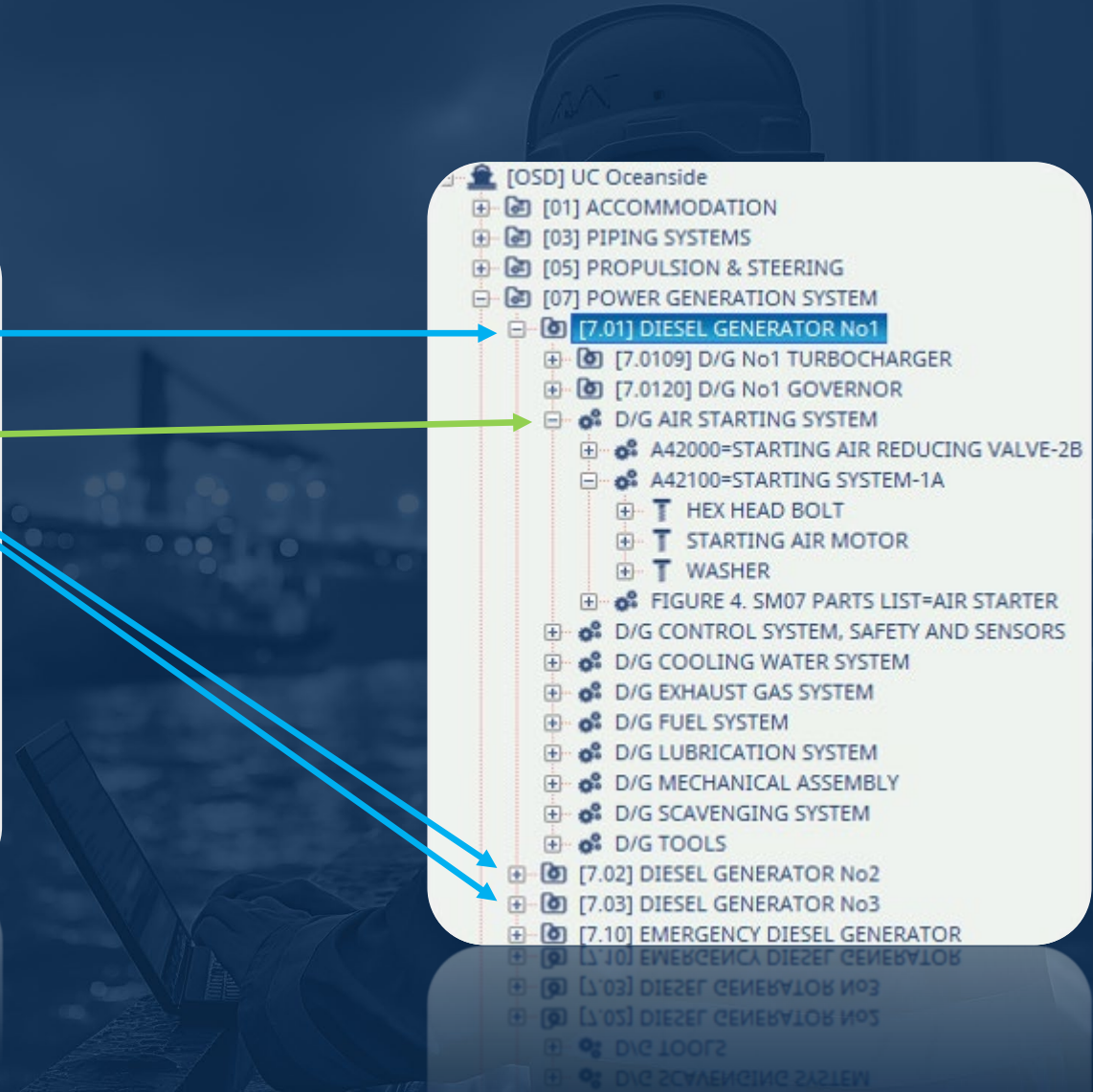


[MEL] MASTER LIBRARY

- [HYHM] SY - HYUNDAI-HIMSEN
 - [HYHM.01] UN - DIESEL GENERATOR
 - [HYHM.01.002] UN - 5H21/32
 - AS - D/G AIR STARTING SYSTEM
 - SA - A42000=STARTING AIR REDUCING VALVE-2B
 - SA - A42100=STARTING SYSTEM-1A
 - PT - HEX HEAD BOLT
 - PT - STARTING AIR MOTOR
 - PT - WASHER
 - SA - FIGURE 4. SM07 PARTS LIST=AIR STARTER
 - AS - D/G CONTROL SYSTEM, SAFETY AND SENSORS
 - AS - D/G COOLING WATER SYSTEM
 - AS - D/G EXHAUST GAS SYSTEM
 - AS - D/G FUEL SYSTEM
 - AS - D/G LUBRICATION SYSTEM
 - AS - D/G MECHANICAL ASSEMBLY
 - AS - D/G SCAVENGING SYSTEM
 - AS - D/G TOOLS

[OSD] UC Oceanside

- [01] ACCOMMODATION
- [03] PIPING SYSTEMS
- [05] PROPULSION & STEERING
- [07] POWER GENERATION SYSTEM
 - [7.01] DIESEL GENERATOR No1
 - [7.0109] D/G No1 TURBOCHARGER
 - [7.0120] D/G No1 GOVERNOR
 - D/G AIR STARTING SYSTEM
 - A42000=STARTING AIR REDUCING VALVE-2B
 - A42100=STARTING SYSTEM-1A
 - HEX HEAD BOLT
 - STARTING AIR MOTOR
 - WASHER
 - FIGURE 4. SM07 PARTS LIST=AIR STARTER
 - D/G CONTROL SYSTEM, SAFETY AND SENSORS
 - D/G COOLING WATER SYSTEM
 - D/G EXHAUST GAS SYSTEM
 - D/G FUEL SYSTEM
 - D/G LUBRICATION SYSTEM
 - D/G MECHANICAL ASSEMBLY
 - D/G SCAVENGING SYSTEM
 - D/G TOOLS
 - [7.02] DIESEL GENERATOR No2
 - [7.03] DIESEL GENERATOR No3
 - [7.10] EMERGENCY DIESEL GENERATOR



HYUNDAI-HIMSEN*DIESEL GENERATOR*5H21/32

Name: 5H21/32
Name: 5H21/32
Maker: HYHM HYUNDAI-HIMSEN, CITY UNKNOWN
Storage:
Status: ☒ Active ☐ InActive
Srl. No.:
Size:
IMO No:
Vendor Restriction ☐ Serialized Equipment Required
Monitoring ☐ Spare ☐ Store
s Code:
HID:
Class Status:
Class Equipment Name:
Designation: Unit
Equipment Code: HYHM.01.002
Equip.Location: C12500924
Date Installed:
Year Made:
Model: 5H21/32
Type: DIESEL GENERATOR
Software Version: 2000028536

o ☒ Cross References Part No. Reference Sources Counter Setup File Attachments ☐ Remarks Message Standard Jobs Certificates

Criticality: D Department:
nt(Materials):
nt(Services):
bject Index: MECHANICAL*01. Hierarchy
Failure Class:
ment Index: DIESEL GENERATORS
Cost Center: Technical

Requisitioning
☒ Stock ☐ Non-Stock
☐ Under Warranty Expires:
☐ Restrict Part Creation ☐ Mark All Parts As Hazardous
☐ Require Failure RA ☐ Allow Type-In
☐ Referenced RA Type
☐ Reference RA Template
Buyer Group: All
Engine
Deck & Engine
Space:
2back:
Deck & Engine

Master Equipment general information

- Maker
- Model
- Type
- Department
- Cost Center
- Equipment index
- Subject index
- Failure Class

GENERATION SYSTEM*DIESEL GENERATOR No1

Name: DIESEL GENERATOR No1
Name: DIESEL GENERATOR No1
Manufacturer: HYHM HYUNDAI-HIMSEN, CITY UNKNOWN
Storage: CE DAYROOM*C DECK
D/G PARTS*ENGINE STORE SPARE
D/G SPARES*ENG SPARE ROOM*ENGINE
Barcode:
Vendor Restriction ☐ Serialized Equipment Required
Monitoring Type: ☒ Spare ☐ Store
Srl. No.: KBA006096-1
Size:
IMO No:
Designation: Unit
Equipment Code: 7.01
Equip.Location: C12500924
Date Installed: 28-04-2017 Year Made:
Model: 5H21/32
Type: DIESEL GENERATOR
Software Version: C2000064509 | CT2000028536
Class Code:
HID:
Class Status:
Class Equipment Name:
Cross References Part No. Reference Sources Counter Setup File Attachments Remarks Message Standard Jobs Certificates
Criticality: D Department:
Material: 5303000001 ENGINE SPARE PARTS - MECHANICA
Service:
Subject Index: MECHANICAL*01. Hierarchy
Failure Class: ALL
Equipment Index: DIESEL GENERATORS
Cost Center: Technical
Requisitioning ☒ Stock ☐ Non-Stock
☐ Under Warranty Expires:
☐ Restrict Part Creation ☐ Mark All Parts As Hazardous
☐ Require Failure RA ☐ Allow Type-In
☐ Referenced RA Type
☐ Reference RA Template
Buyer Group: All
Engine
Deck & Engine
Space:
2back:
Deck & Engine

Vessel Equipment

general + functional information

- Buyer Group
- Serial Number
- Accounts (Materials, Services)

Master Library Preventive Maintenance

Equipment Explorer

File Open Find View Help

Search: hyhm

- [MEL] MASTER LIBRARY
 - [HYHM] HYUNDAI-HIMSEN
 - [HYHM.01] DIESEL GENERATOR
 - [HYHM.01.001] 7H21/32
 - [HYHM.01.002] 5H21/32
 - [HYHM.01.003] 6H21/32
 - [HYHM.01.004] 9H21/32 900rpm
 - [HYHM.01.005] 5H21/32
 - [HYHM.01.007] 7H21/32
 - [HYHM.01.008] HIMSEN 8H35DF
 - [HYHM.01.009] HIMSEN 6H35DF
 - [HYHM.01.010] 6H21/32
 - [HYHM.02] TORSIONAL VIBRATION DAMPER
 - [HYHM.03] ELECTRIC MOTOR
 - [HYHM.04] PUMP

Size	Job Title
8	5H21/32 INSPECTION
12	5H21/32 LUB OIL SAMPLING
18	5H21/32 ALARMS AND TRIPS TEST
32	D/G PRE-LUBRICATING OIL PUMP OVERHAULING
38	D/G EXHAUST GAS SILENCER CLEANING
38	D/G AIR STARTER MOTOR OVERHAULING
58	5H21/32 PERFORMANCE TEST
60	D/G CYLINDER HEAD INSPECTION
60	D/G FUEL INJECTION VALVES CYL OVERHAULING
74	D/G MECHANICAL SYSTEM (BEARINGS, WEIGHTS) INSPECTION
74	D/G CYLINDER HEAD OVERHAULING
74	D/G FUEL OIL PUMP OVERHAULING
74	D/G AIR COOLER CLEANING
78	D/G CONNECTING ROD BOLTS TENSION CHECK
84	5H21/32 OVERHAULING
84	D/G COOLING WATER PUMP OVERHAULING
84	D/G LUB OIL PUMP OVERHAULING

Standard Job - [0178-00002-00005229]

File Job Description Reports Help

Machinery: MASTER LIBRARY * HYUNDAI-HIMSEN * DIESEL GENERATOR * 5H21/32 Maintained Part

Job Title: D/G CYLINDER HEAD INSPECTION

Job Constraint:

- ☐ Calendar-Based
- ☒ Counter-Based

Maintenance Trigger:

- ☒ Grouped Counter
- ☐ Individual Counter

Schedule Based On:

- ☒ Completion Date
- ☐ Due Date

Calendar Interval: 0 Weeks ☒ Months

Counter Interval: 2,000 Hours ☐ vs Calendar

Open Window: 0 Weeks

Custom Forms:

Service:

Job Size: 60 Status: ☒ Active ☐ Dormant

Job Counter: 0

Grace: 0 Days

Questionnaire:

SI Reference:

PTW Requirement:

- ☐ PTW Required
- ☐ WO Table Entries Required
- ☐ WO Findings Required

Last Done:

Last Due:

Vendor Analysis:

Job Description Resources Admin Info Questionnaire Materials Required Change Log Counter History Misc. Equipment Tables R < > ||

Standard Description

Index: 5H21/32*HYUNDAI-HIMSEN

Inlet / Exhaust Valves Clearance Check

In both inlet and exhaust valves a clearance check should be performed. For proper checking please follow below instructions:

- Check that wearing parts of rocker arm assembly

Vessel Specific Description

Master Library Job Description

Job Description - [0136-00002-00001101]

File Tools Help

Q Search...

SH21/32
6H21/32
7H21/32
9H21/32 900rpm
GAST 4AM-ARV-119
HIMSEN 6H3SDF
HIMSEN 8H3SDF
R25/16
HYUNDAI-MAN B&W
HYUNDAI-MARINE MACHINERY
HYUNDAI-MITSUBISHI TURBO
IBUKI KOGYO
ICOM
IHI MARINE
IHI ROTATING MACHINERY
IHMOTOR
IL HEUNG
ILJIN AND CO., LTD
IMABARI SHIPBUILDING
IMC LTD
IMO
INELTEH
INHA ELECTRIC
INOKUMA
INTELLIAN TECHNOLOGIES
IRIDIUM
ISHIDA ENGINEERING
ITO ENGINEERING
ITUR PUMP
J.P. SAUER & SOHN
JAEIL FINE MACHINERY MFG
JAPAN MARINE TECHNOLOGIES
JAPAN MARINE UNITED CORP
JAPAN RADIO CO
JEKTRIM
JETS VACUUM
JFE ENGINEERING CORP
JFE SOLDEC CORPORATION
JIANGSU BOLIN MACHINERY
JIANGSU JIANGYAN MARINE
JIANGSU JIAOYAN MARINE

Srl. No.	Text Detail	Text Code	Replicates To
7	HYHM.SH21/32.CYL HEAD.OVH(UH)	FINXSJ-01646	Ship: UH,UJ,UK,UI,MEL
8	HYHM.SH21/32.CYL HEAD.INS(UH)	FINXSJ-01647	Ship: UH,UJ,UK,UI,MEL
9	HYHM.SH21/32.CONN RD.BLT.S.CHK.TENS(UH)	FINXSJ-01648	Ship: UH,UJ,UK,UI,MEL
10	HYHM.SH21/32.FO.PUMP.OVH(UH)	FINXSJ-01649	Ship: UH,UJ,UK,UI,MEL
11	HYHM.SH21/32.FOINJ.OVH(UH)	FINXSJ-01650	Ship: UH,UJ,UK,UI,MEL
12	HYHM.SH21/32.EXH GAS SIL.CLN	FINXSJ-01651	Ship: UH,UJ,UK,UI,WG +2

Paragraph Segoe UI 12 pt

Inlet / Exhaust Valves Clearance Check

In both inlet and exhaust valves a clearance check should performed. For proper checking please follow below instructions:

1. Check that wearing parts of rocker arm assembly maintained correctly.
2. Check the nut (5) for fixing rocker arm tightened correctly or tighten them again.
Tightening torque: 180 Nm (with molybate)
3. Loosen the lock nut (3) and adjusting screw (4) of rocker arm.
4. Put a dial gage on the yoke and insert a feeler gauge between rocker arm and yoke (D).
Thickness of feeler gauge: 0.5 mm
5. Rotate the adjusting screw (4) until bottom of the adjusting contacting with push rod. (Watch the needle of dial gage starts to move)
6. Tighten the lock nut (3) while holding the adjusting screw (4) not to be turned.
7. After locking, measure the clearances again for confirmation while pressing the push rod side of rocker arm firmly, if necessary, readjust.

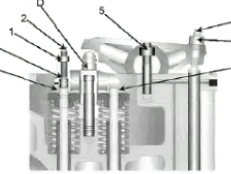


Fig. 1 Adjustment of valve clearance

Valve Type	Clearance (a)	Setting	Allowable	Notes
Intake valve	Clearance (a)	Setting : 0.5	Allowable : 0.4-0.6	1) Valve clearance is with engine cold. 2) (b) should be set at 10° prior to the adjustment of (a).
Exhaust valve	Clearance (a)	Setting : 0.5	Allowable : 0.4-0.6	

Roto-Caps Function test Clearance Check



Training

- Training Process(es)
- Training Material
- Training Groups
- Training Method(s)





Upgrade Enrich Data

- Plan to upgrade to a new version
- Plan to upgrade your data to the next level
- Version Upgrade + Data Upgrade

=> Upgrade the business information flow



Benefits



ABS WAVESIGHT™



Benefits

- Data Consistency
- Functional Structure
- Operational Efficiency
- Process Enforcement
- Maximize Business Value





Data Consistency

- Meet end user expectations
- Know where to search
- Know what to search
- Consistent reporting
- Easily identify deviations
- Metadata + Data = Information



Functional Structure

Organized hierarchies

Reduced dataset(s)

Common parts and consumables lists

One place for data work

Faster search

Easy fleetwide updates

Operational Efficiency

- Purchasing Management
 - Part's History
 - Availability
 - Fleetwide Material Contracts
- Inventory Management
 - Inventory Valuation
 - Transferability
- Material Sourcing
 - Vendors
 - Restrictions
- Warehouse Management
 - Selective Categories
 - Equipment Type Hierarchies





Process Enforcement

- Maintenance Process
- Purchasing Process
 - Contracts
 - Information Overview
- HSQE Process
- Interfaces
- Simplified End User Training

Maximize Business Value

- Data Efficiencies
 - Minimal Dataset
 - Easy Creation and Updates
- Process Efficiencies
 - Improved Process through “richer” information
 - Simplified 3rd Party Integration
- Cost Efficiencies
 - Comparable Information (e.g. unit price, sources, etc.)
 - Material Visibility (e.g. order volume and consumption)
 - Sharables
 - Contract Management

Data Quality Evaluation



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Data Quality Evaluation

- How to check your data?
- Who to talk to about your data?
- Does the data indicate system usage?

“Things get done only if the data we gather can inform and inspire those in a position to make difference.”

– Mike Schmoker, Results

- ▲ A. Summary
 - 1. High Level Observations
 - 2. High Level Recommendations
- B. Methodology
- ▲ C. Balance Scorecard
 - 1. Background
 - 2. Summary
 - ▲ 3. Assessment
 - ▷ i. General Data
 - ▷ ii. Application Configuration
 - ▷ iii. System Preferences
 - ▷ iv. Informational Data Warehouse, Structure and Usage
- ▲ D. System Check
 - 1. Database Integrity
 - 2. Transaction Log
 - 3. System Audit
 - 4. Attachments
 - 5. License Audit
 - 6. TechExcel Review & Cleanup
- ▲ E. Appendix
 - ▲ 1. Assessment Criteria
 - ▷ i. General Data
 - ▷ ii. Application Configuration
 - ▷ iii. System Preferences
 - ▷ iv. Informational Data Warehouse, Structure and Usage

Balanced Score Card 1/3

ABS NS uses a standard data evaluation questionnaire covering over 250 data elements which relate the data's preparedness to support the activities required for each maturity level on the EAM continuum. ABS NS Professional Services Consultants review and measure the populated data set and run predefined scripts to compare the levels of data required for moving along the EAM maturity continuum.

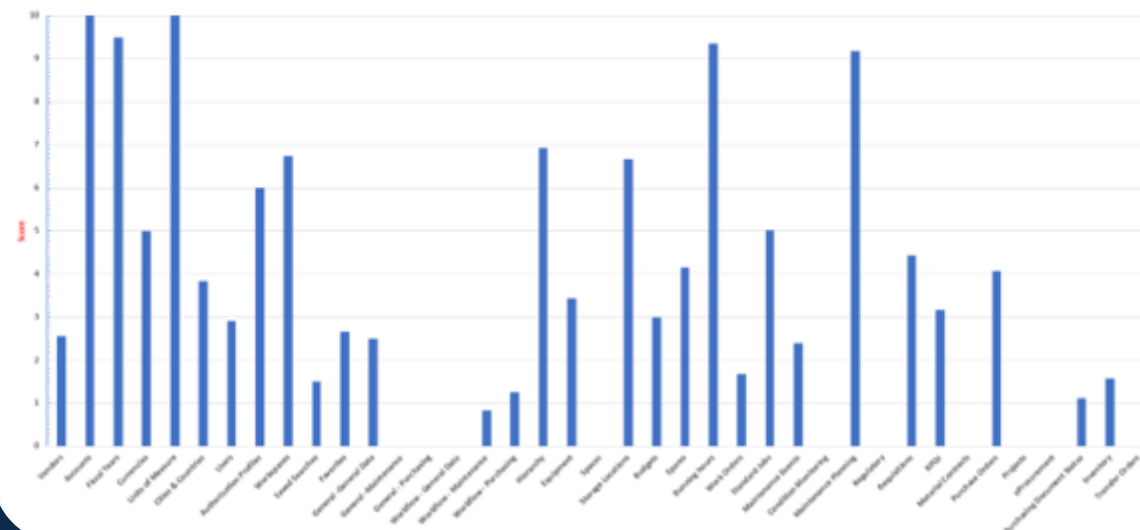
- ▲ A. Summary
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Balanced Score Card 2/3

The retrieved data sets are combined with meta data and produce information sets. The analysts assess those using three methods:

- the quantitative, based on specific functions and the derived results and
- the qualitative, based on the combination specific functions and the derived results, as well as non-numeric based analysis
- the functional, based on the utilization of the system's supported functionalities

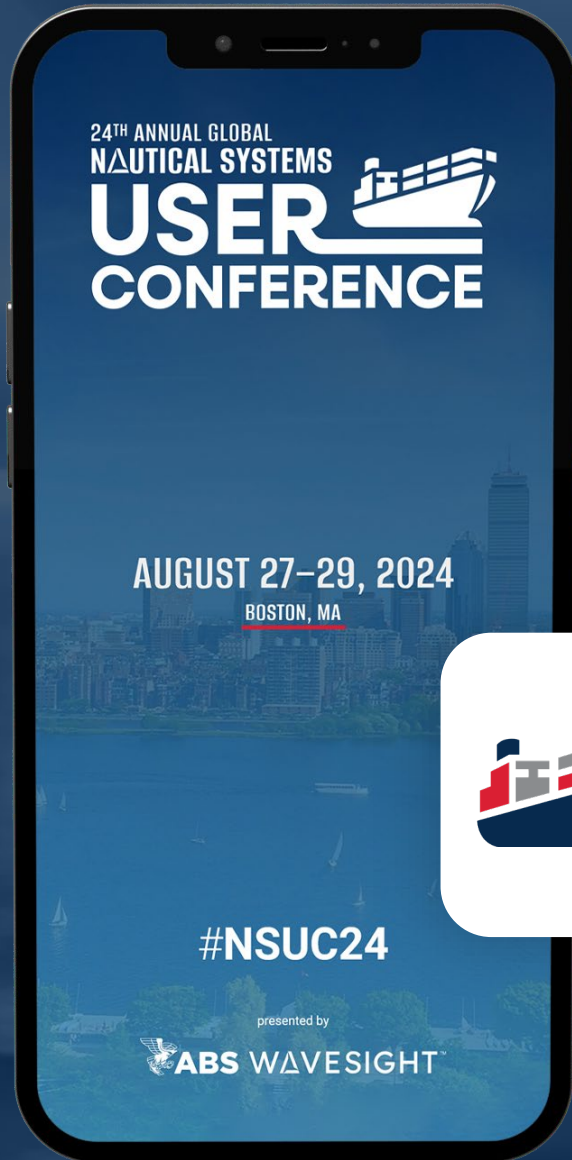
Conditions	Consolidated average score
All Vessels - All Criteria	3.37/10
All Vessels – Valued Only Criteria	4.53/10



Balanced Score Card 3/3

The results of the data analysis are represented on comparative basis against best practice and shown on a scale of 1 to 10 and defines the current state of the data indicating the gap between optimal and existing.

Insights and more targeted conclusions can be drawn through interview(s) with operating unit staff of customer and review of operational policies and procedures by ABS NS Consultants and Business Analysts.



How many points did you get?

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