24TH ANNUAL GLOBAL NAUTICAL SYSTEMS USER CONFERENCE

Data Governance & Managing the System

Antonios | Nadia

9/12/2024

Presented by

ABS WAVESIGHT™

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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

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Data Governance

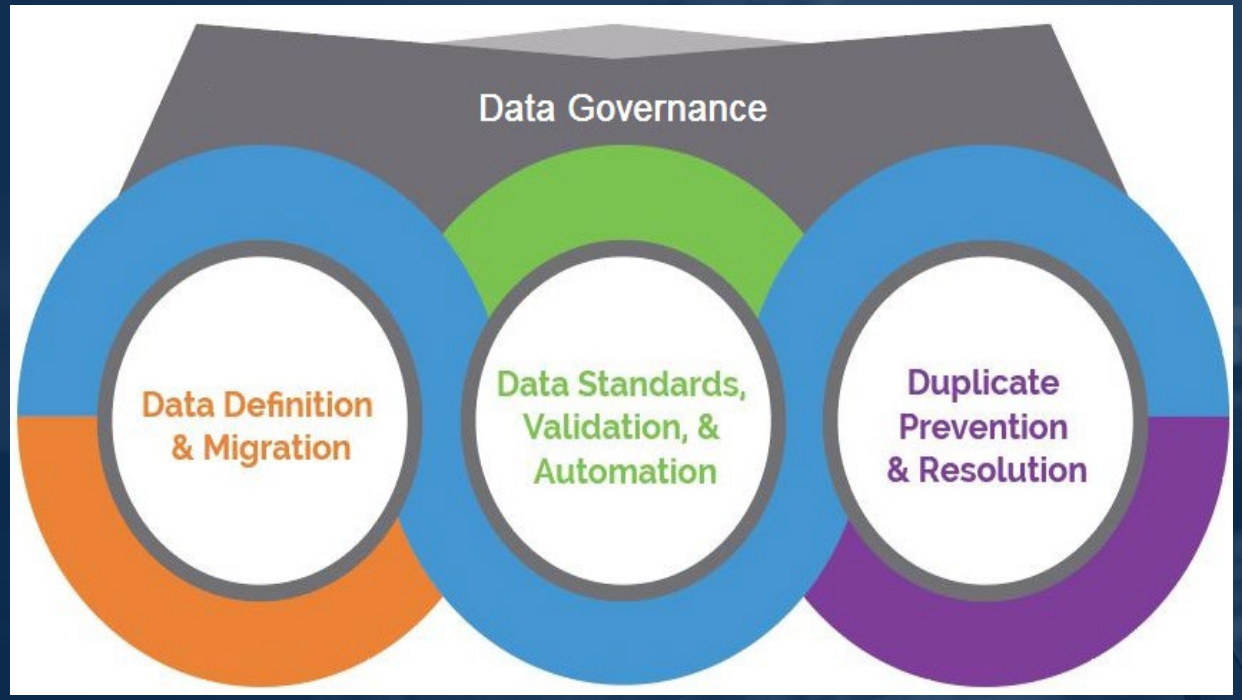
Definition

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

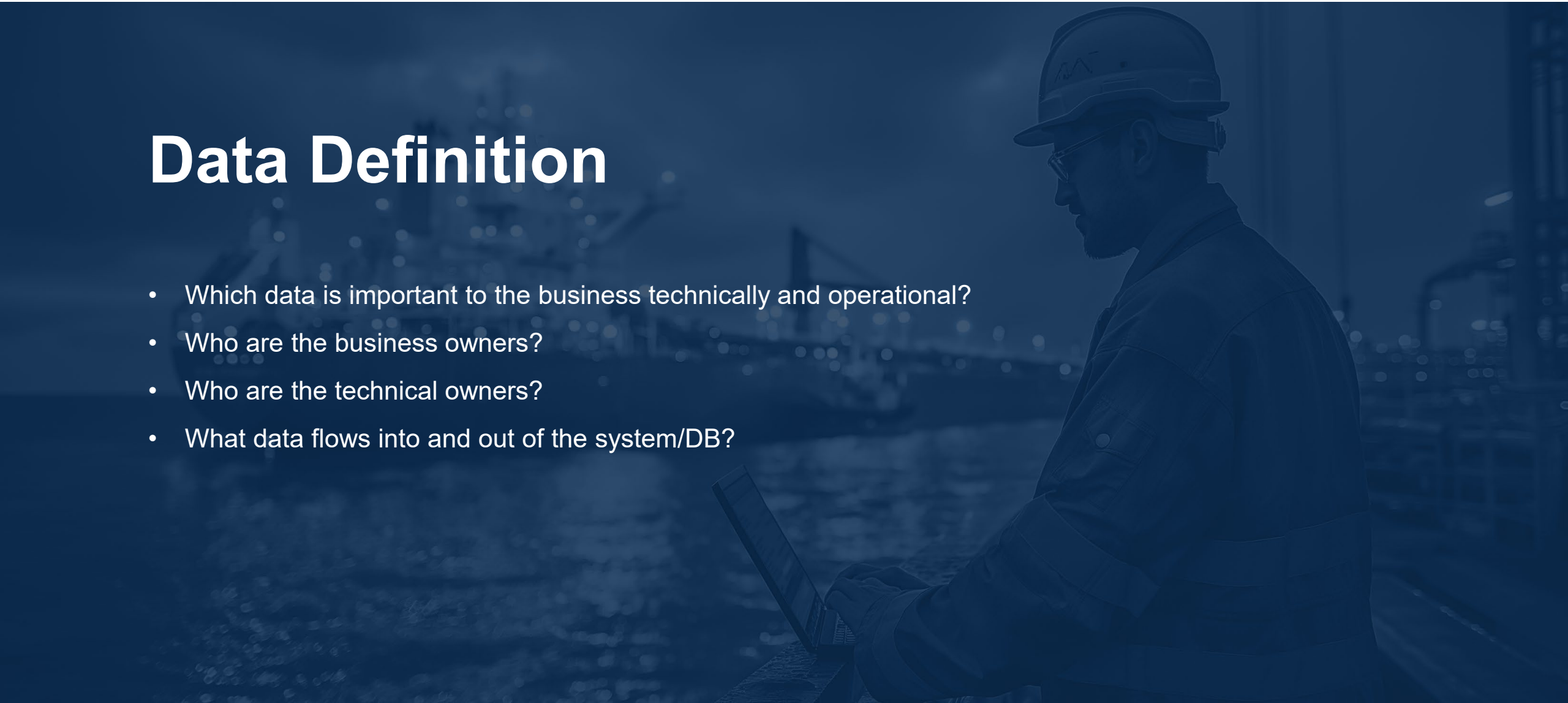


Three Pillars

- 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?

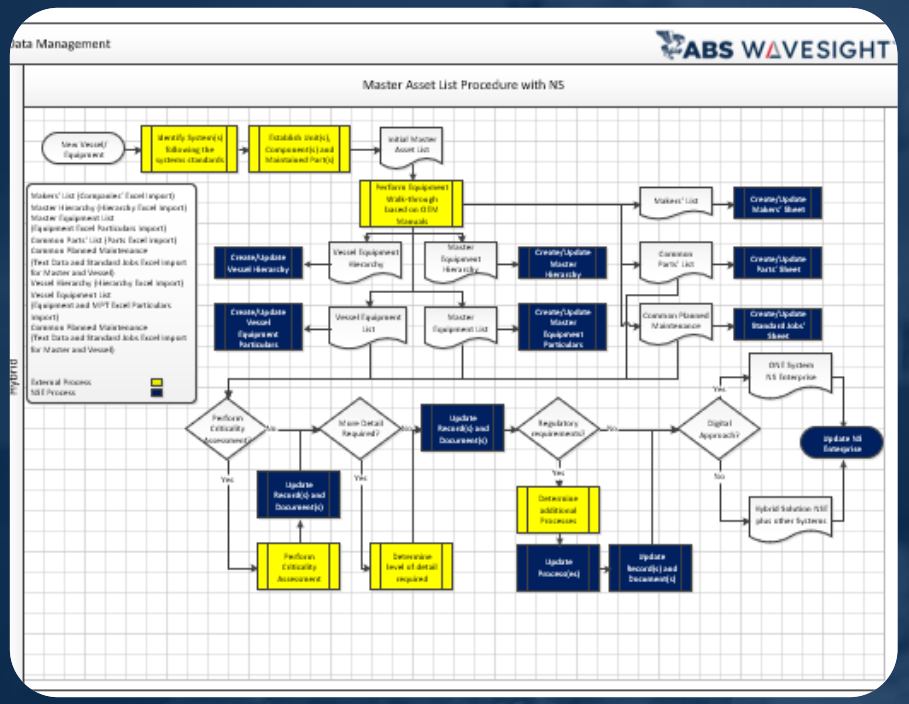


Standards, Validation, and Automation

- 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

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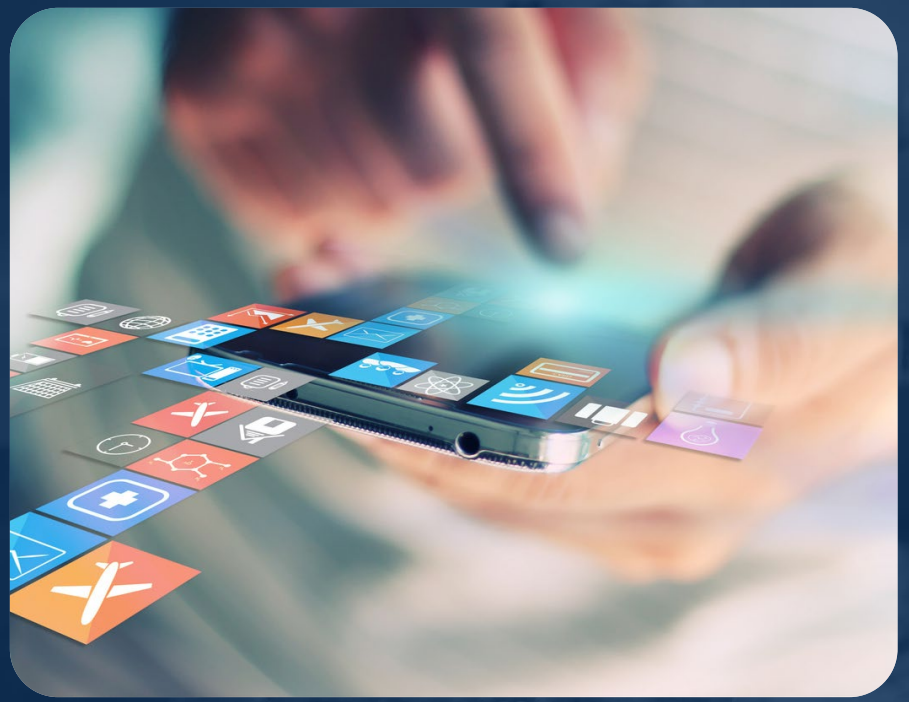

Control Data Access

Who accesses the data?

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

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

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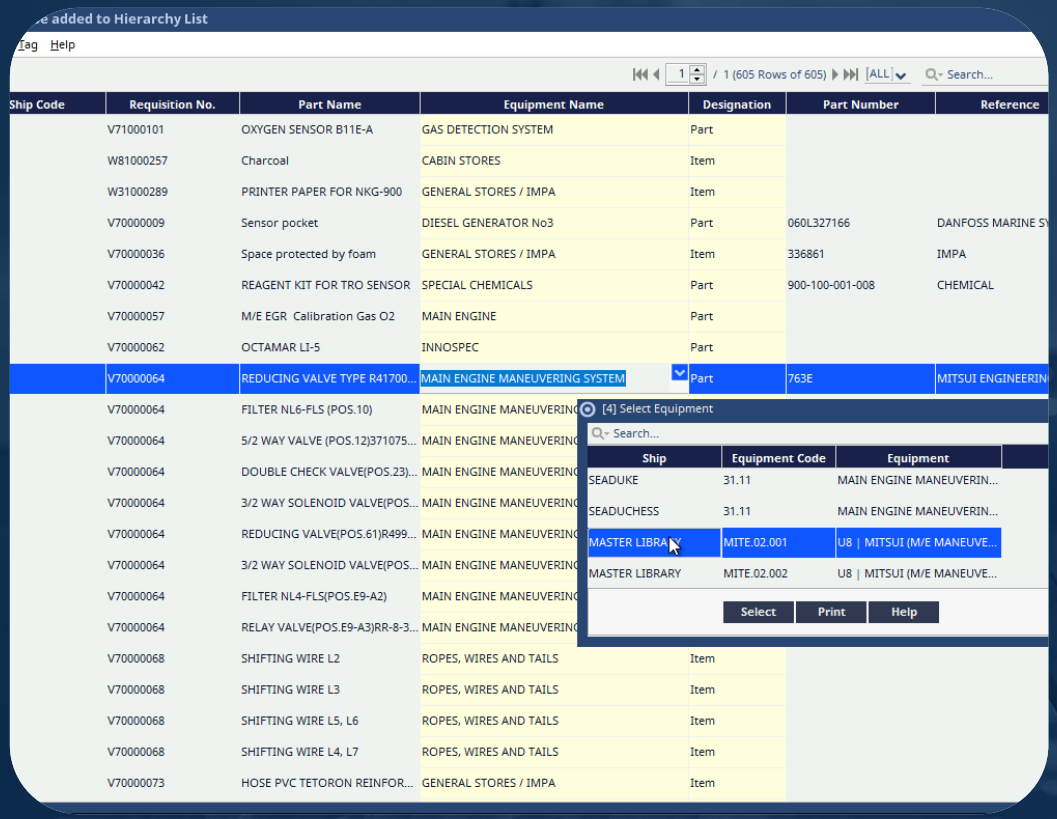

Add parts to hierarchy

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:

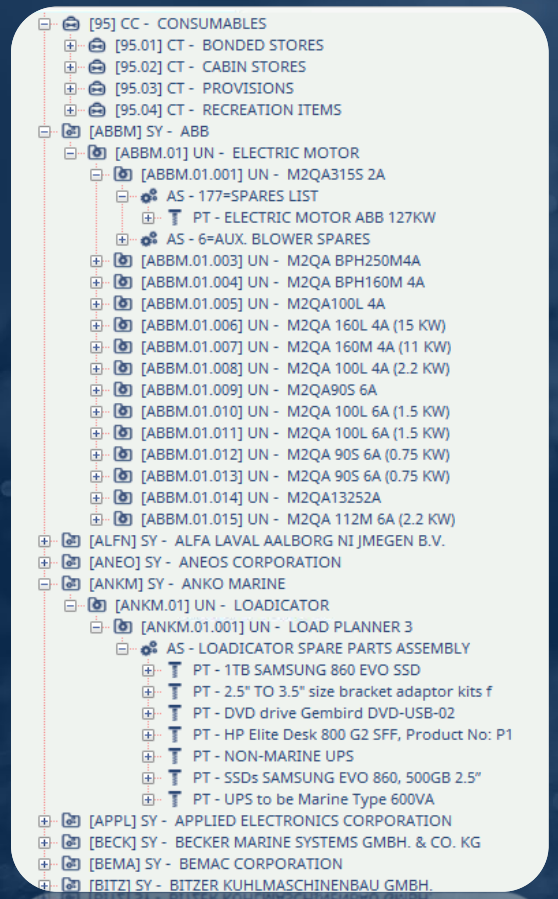
- Standard equipment particulars information (name plate, account codes, buyer group, indexes, etc.)
- Complete parts' list and fleetwide consumable catalogues
- Manufacturer preventive planned maintenance

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)



Master Library Hierarchy

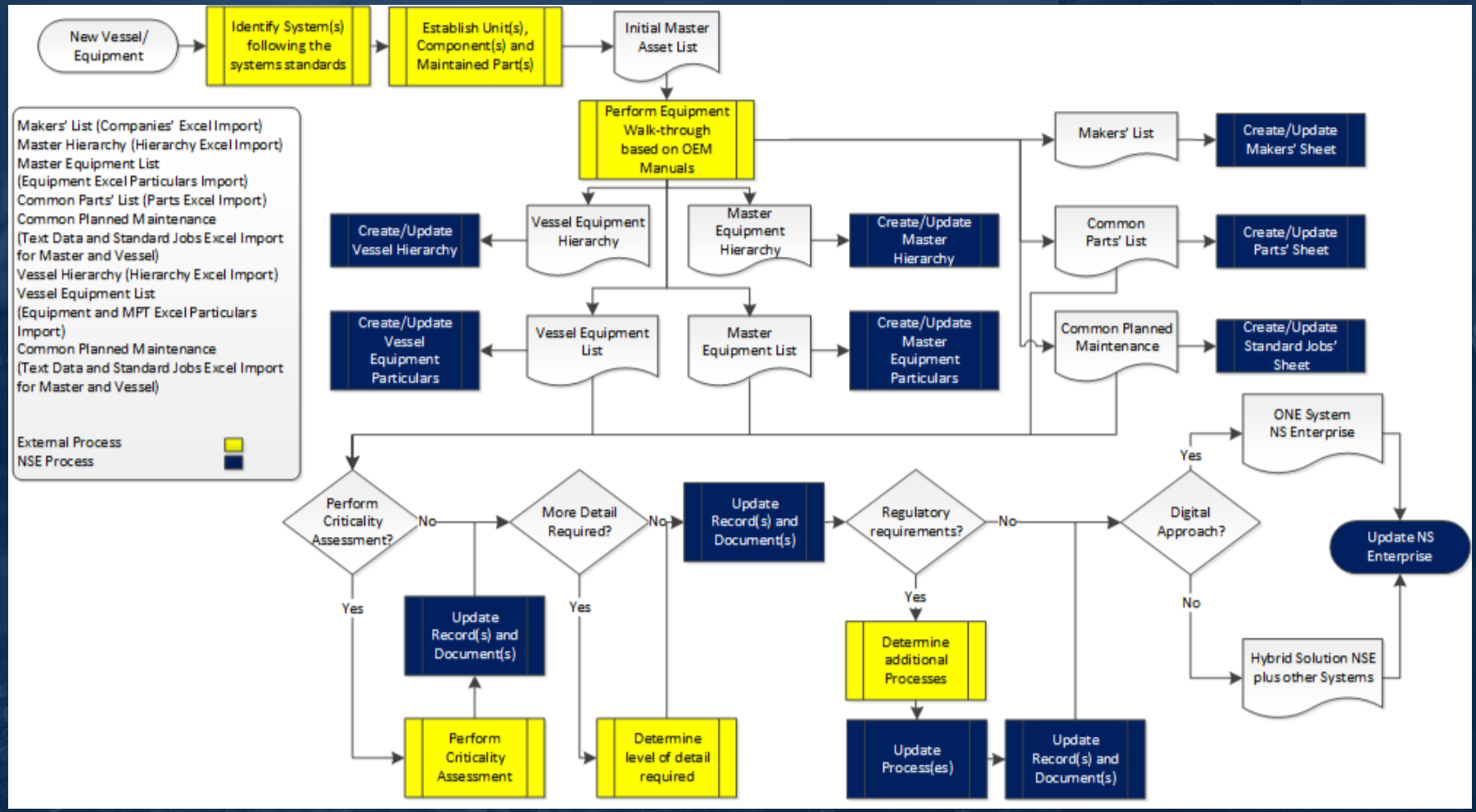
- Maker (System)
  - Type (Unit)
    - Model (Unit)

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

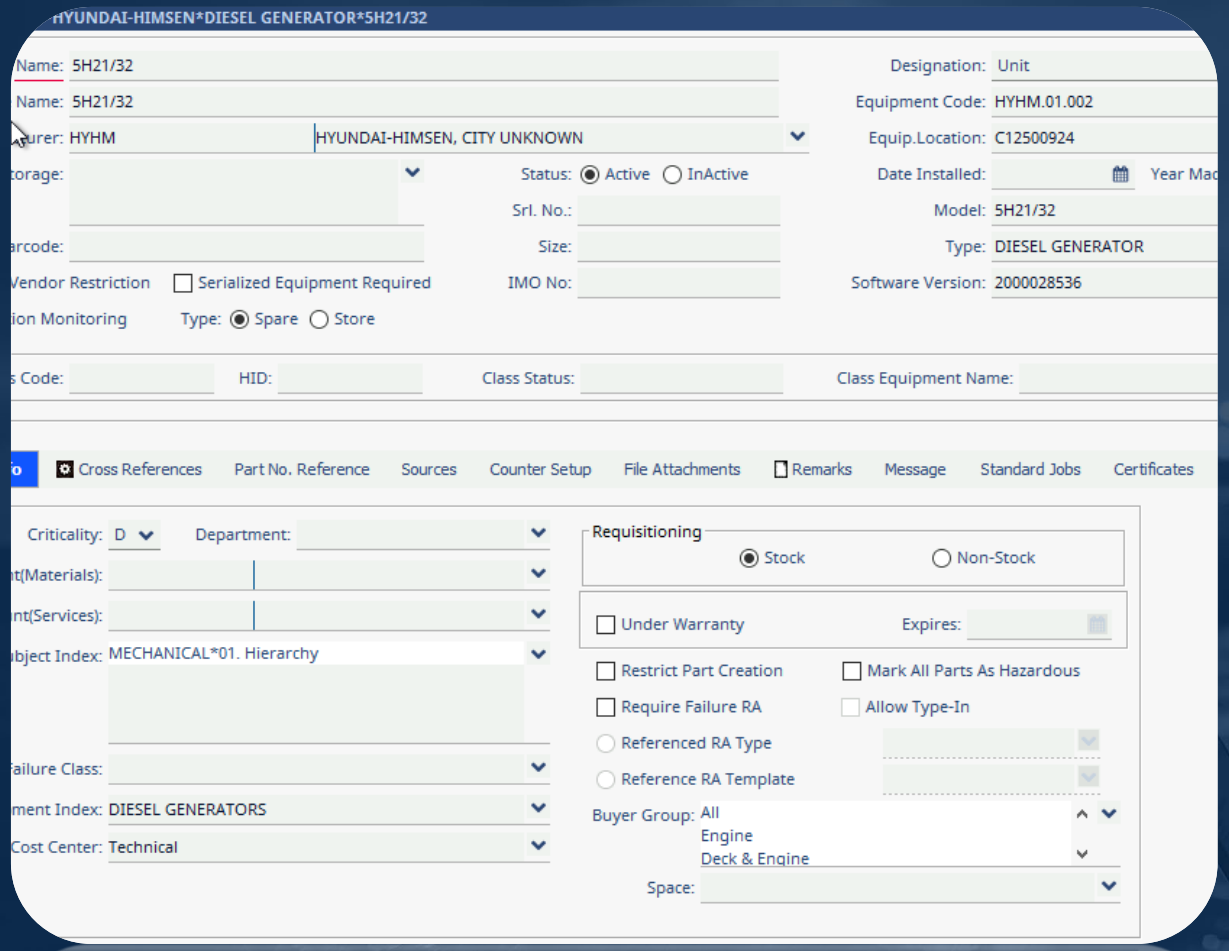
- Utilize Excel Import
  - Hierarchy, Makers, Equipment, Parts , Text Data (html Job Descriptions), Standard Jobs, Maintained Parts
- Interface Facilities
  - Interface Asset Management (Equipment and Parts/Items) and Account Codes

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
[HYHM.01.003] UN - 6H21/32
[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



Master Equipment

general information

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

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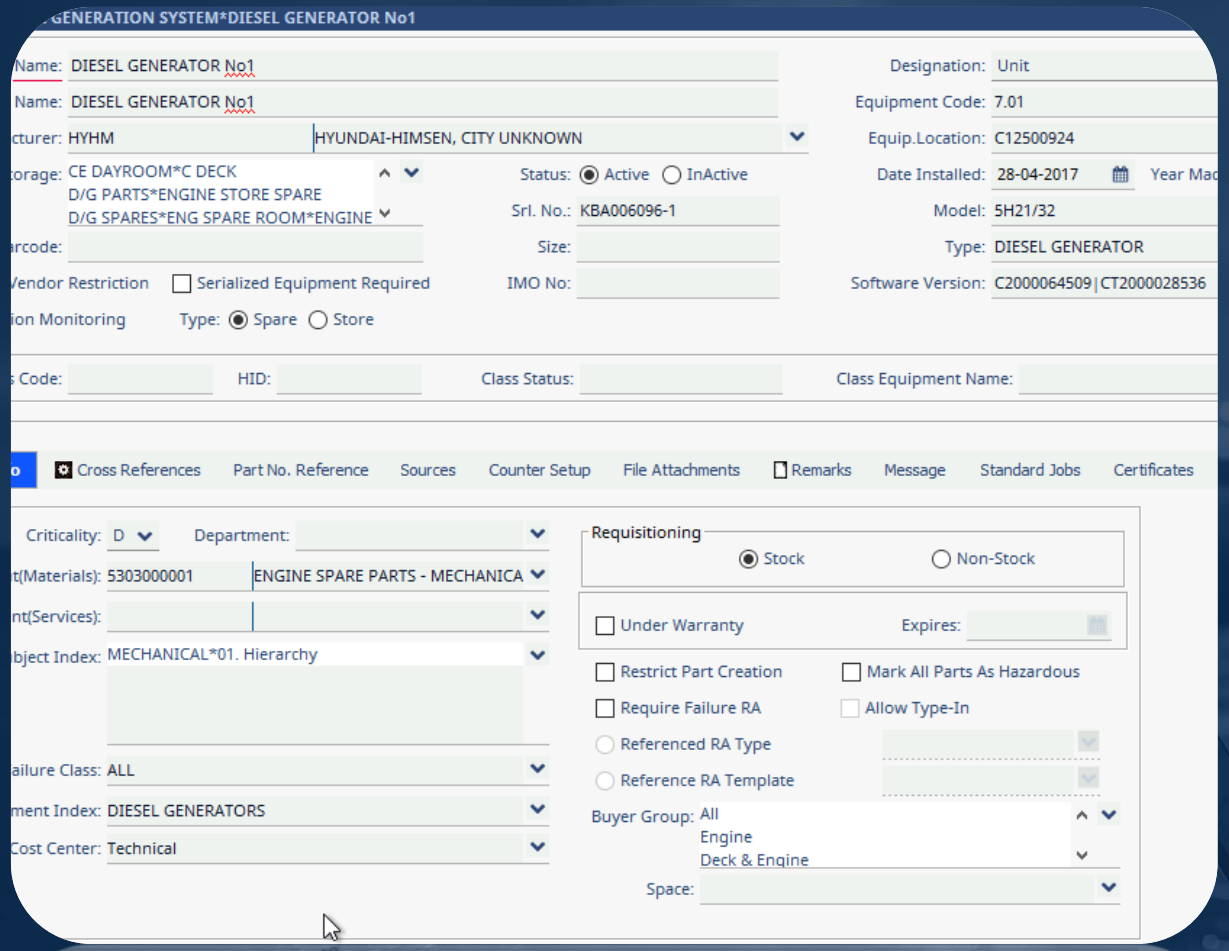

Vessel Equipment

general + functional information

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

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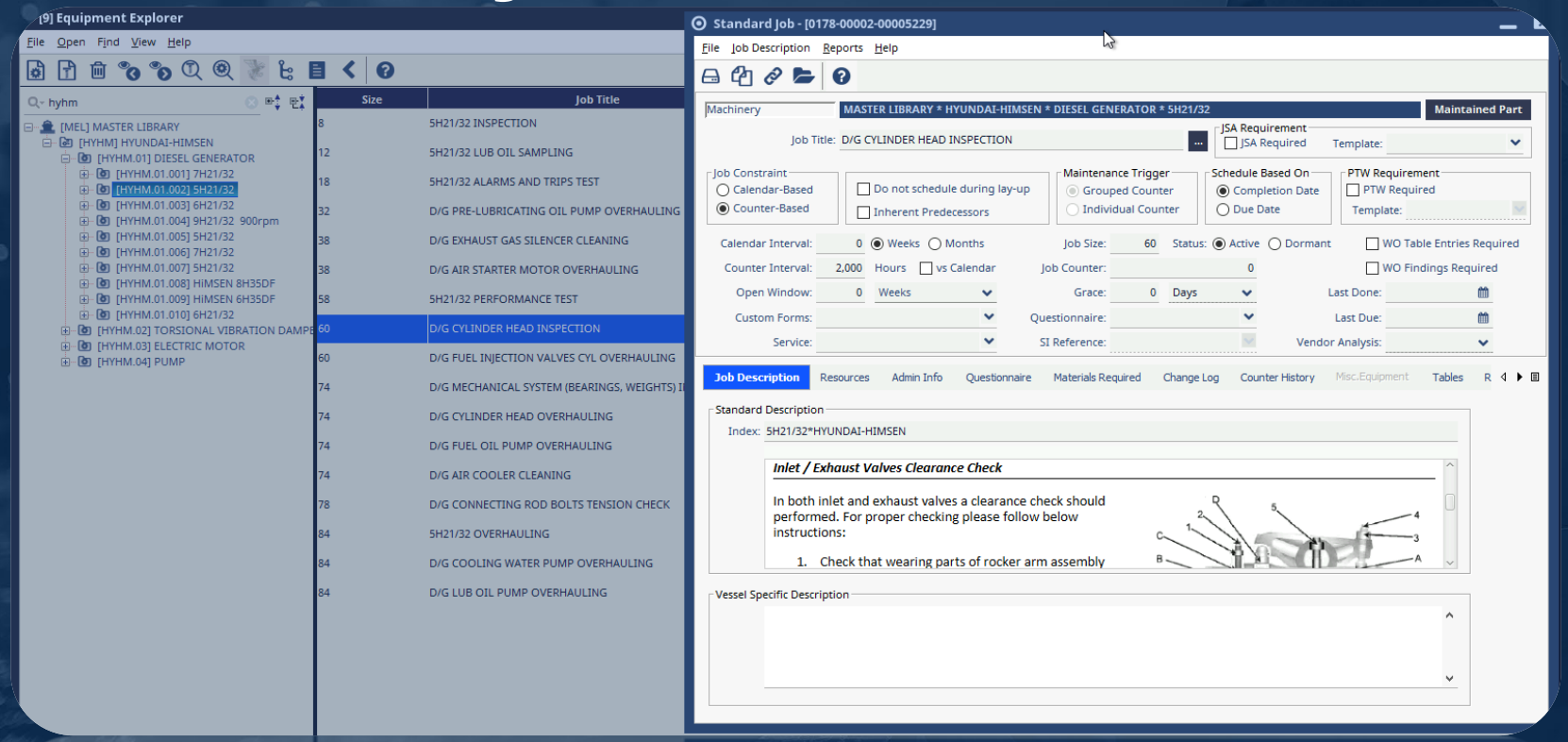
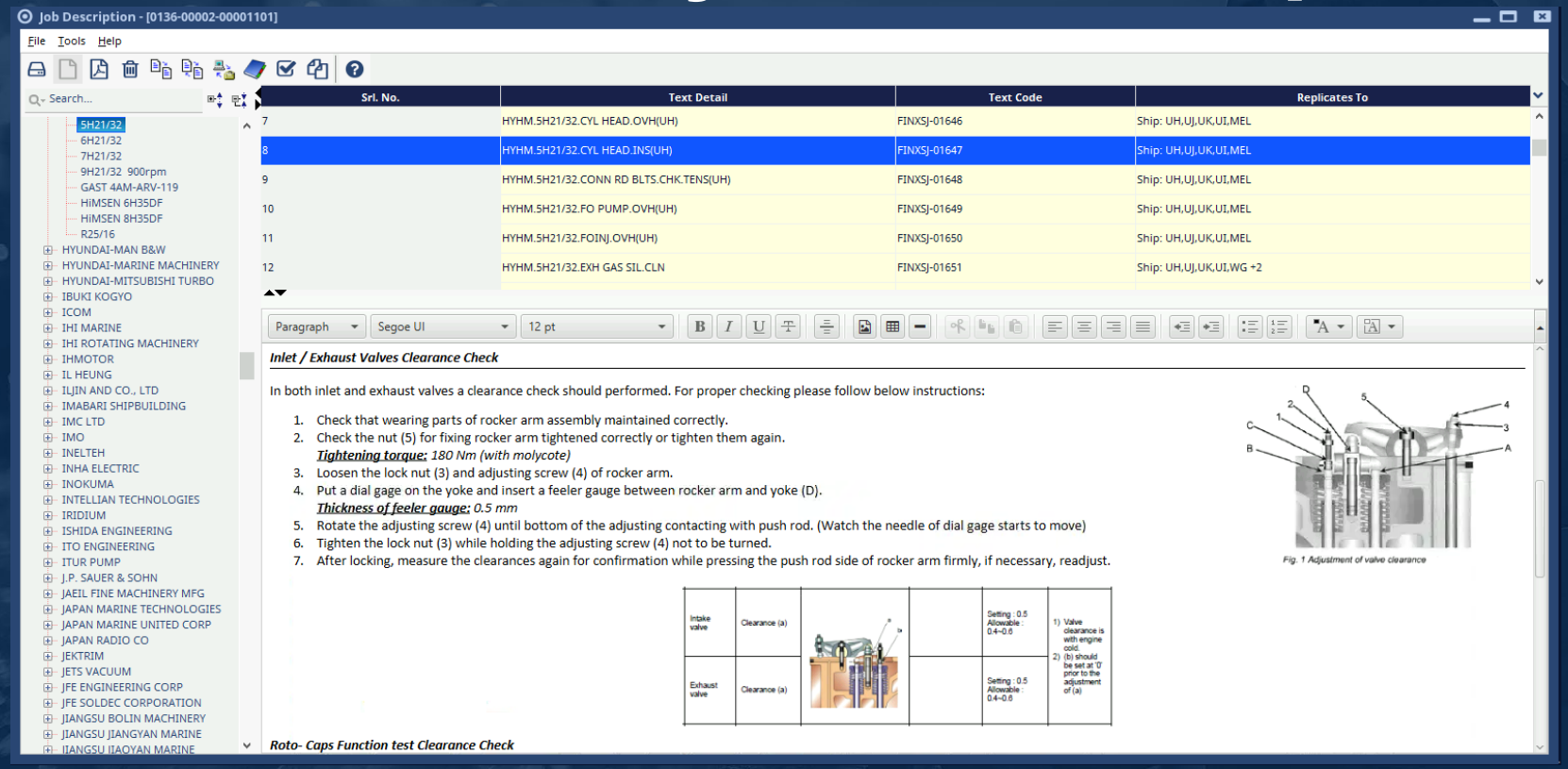
Master Library Preventive Maintenance



Master Library Job Description



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

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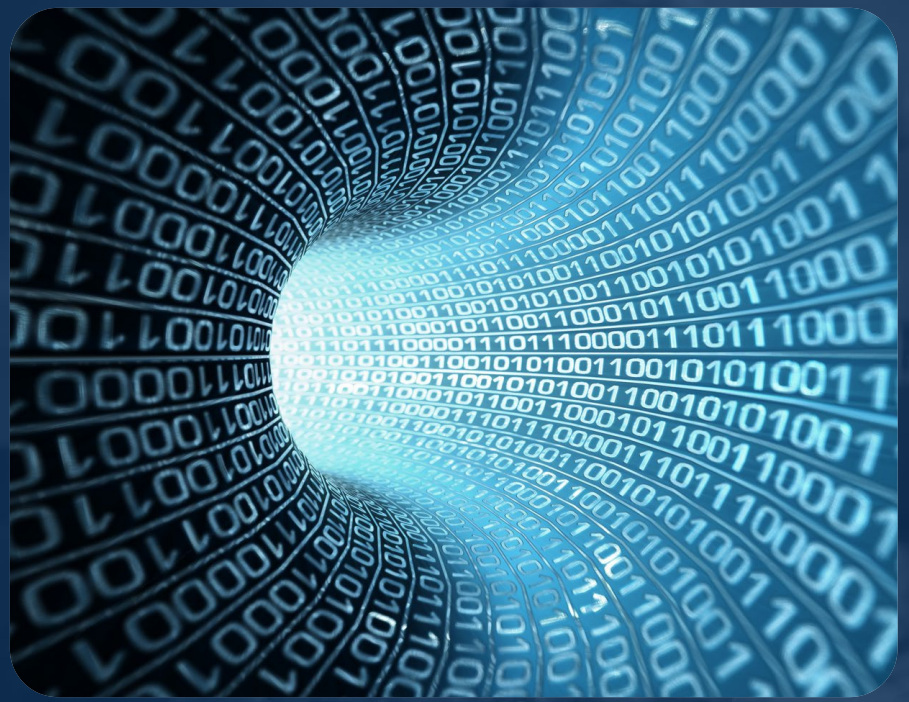
Benefits

- 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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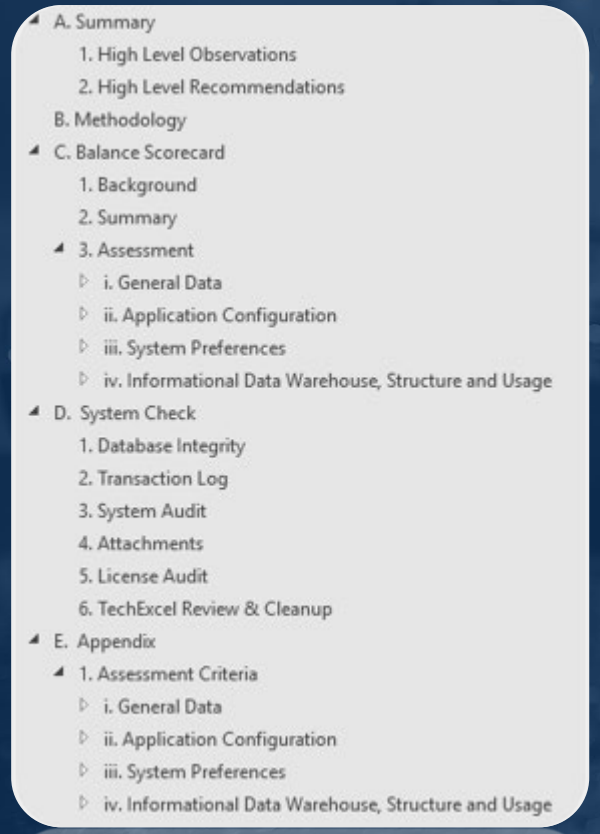
Data Quality Evaluation

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

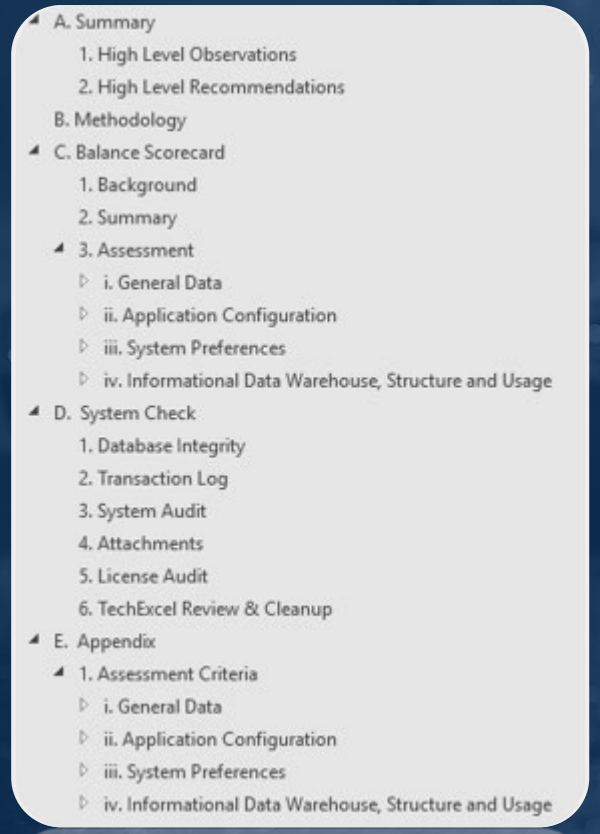
"Things get done only if the data we gather can inform and inspire those in a position to make difference."

– Mike Schmoker, Results



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.



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

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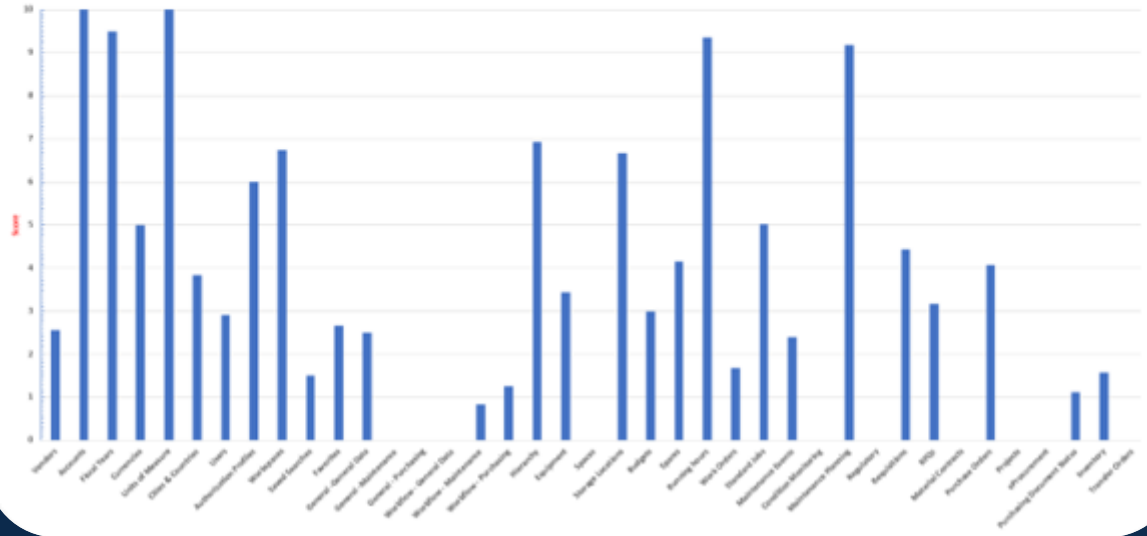
Conditions	Consolidated average score
All Vessels - All Criteria	3.37/10
All Vessels – Valued Only Criteria	4.53/10



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?

Use the NSUC app leaderboard to check your score and keep participating throughout the conference for a chance to win prizes (and bragging rights)!

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