Fleet/Asset Management Systems

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Overview

- Elements of a complete Enterprise Asset Management (EAM) system
- Challenge: getting quality data in
- Challenge: creating a “living system”
Logical View of EAM

**Asset Inventory**
- Assets
- Serialized components & assignments
- Bills of material
- Maintenance plans
- Resources required
- Usage characteristics
- Ownership/lease tracking
- Acquisition and replacement
- Warranty coverage
- Related files, images

**Maintenance**
- Work orders
  - Mechanic labor
  - Parts/materials
  - Commercial repairs
- Preventive (PM) and Predictive (PdM) Maintenance
- Work schedules
- Work delays
- Mechanic training and certification

**Parts Inventory**
- Issues/returns to stock
- Transfers
- Physical inventory and cycle counting
- Kit management
- Part rebuilds and fabrication

**Operations**
- Fuel and fluids inventory management and usage
- Odometer and meter updates
- Usage by department
- Fees and licenses
- Operator training and certification

**Customer-facing**
- Customer access portal
- Motor pool reservations
- Maintenance notifications
- Service level agreements
- Reports (billing, history)

**Analytic Tools, Reports, Dashboards, Notifications**

**Integration to External Systems, Back Office Applications**
Operational Footprint View of EAM

- SHOP FLOOR
- FRONT OFFICE
- CUSTOMER WINDOW
- FLEET MANAGER
- BACK OFFICE
- PARTS ROOM
- MOTOR POOL
- FUEL
Operational Footprint View of EAM

SHOP FLOOR
- Maintenance Management
- Commercial Repair Management
- Shop Floor Management
- Dashboard /Notifications
- In-shop Vehicle Diagnostics
- Labor/Repair Estimation

FRONT OFFICE
- Customer Access
- Driver Management

CUSTOMER WINDOW
- Service Level Agreements
- Vehicle Availability
- Customer Views

BACK OFFICE
- Asset Management
- Acquisition/Disposal
- Warranty Management
- Lease Management
- Accident Management
- Warranty Claim Processing

PARTS ROOM
- Inventory Management
- On-line Part Distribution
- Image Based Part Catalog
- Parts Cross-referencing
- Dashboard /Notifications

FLEET MANAGER
- Dashboard /Notifications
- Life-Cycle Analysis
- Replacement Planning
- Trend Analysis
- Benchmarking

MOTOR POOL
- Motor Pool
- On-Line Pool Reservations
- Unmanned Pool Locations

FUEL
- Fuel Management
- Hose/Reel Controls
- Commercial Fueling/Repair

Telematics

Mobile Repair

On-Line Pool Reservations

Unmanned Pool Locations
Data Of All Types…

- Work orders
- Labor transactions
- Parts issues and returns
- Commercial work charges
- Delays
- Campaigns
- Engine diagnostic data
- Defects/service requests
- Usage tickets
- Employee training
- Parts inventory counts
- Part Adjustments
- Transfers
- Part rebuilds
- Tool check out/in
- Vehicle status updates
- Assignment changes
- Odometer/meter updates
- Warranty claims
- Accidents
- Incidents
- Fuel/fluid tickets
- Fuel/fluid receipts
- Fuel/fluid tank readings
- Fees/licenses
- Part requests
- Requisitions
- Purchase orders
- Receipts
- Motor pool reservations
From Various Sources

- Technicians
- Service writers
- Shop supervisors
- Storekeepers
- Receiving dock
- Fleet clerks
- Vendors
- Risk management
- Vehicle operators
- Departmental clerks
- Manufacturers
- Fuel islands
- Engine computers
- Diagnostic tools
- GPS/AVL systems
- Asset procurement
Two Rules of Data Collection

1. AUTOMATE when possible
   - On-board data collection
   - Automated fueling systems
   - Integration to external systems

2. When not possible, SIMPLIFY
   - Focus on ease-of-training, ease-of-use
   - Move toward “first person” data capture
   - Simplify the screens and work processes
Getting Data In

EAM

Manual Key Entry
Entry Automation
Integrations
Mobile Device
Telematics (AVL/GPS)
Shop Systems
Fuel System

KeyValet

www.assetworks.com
Getting Data In – Future or Now?

- Automate entry of potential maintenance tasks as well as action to take.

- Analyzer Diagnostic PC connects directly to the on board computer (OBC)

- Pre-trip inspections

- Integrated fuel system to capture diagnostics at fueling

- GPS integration
If You Can’t Automate, Simplify
Getting Information Out

EAM

- Integrations
- Transaction Reporting
- Ad-hoc Capabilities
- Dashboards
- Trend Analysis
- Customer Views
- Replacement Modeling
Out-of-Box Outputs

- Operational and Analytical Reports
- Key Performance Indicators/Dashboards
- Trend Analysis
- Ad-Hoc Query Engine
- Vehicle Replacement Analysis
- Emissions Reporting
Making EAM A “Living System”

- Do not allow your investment to become the “electronic file cabinet”
- EAM must support RCM concept of a continually-improving “living system”
  - Track adherence to plans/achievement of goals
  - Evaluate results
  - Propose, test, and implement changes
Continual Evaluation & Improvement

“I have a “thing” …
“vehicle fleet” …
“shop workflow” …
“vendor relationship” …

… how well is it working?
… how can I improve it?
Part of a Process

- Changes to “Thing”
- Objective/Goal
- Analysis & Evaluation
- Daily Operations & Transactions
- “Thing”

Changes to “Thing” lead to Objective/Goal, which leads to Analysis & Evaluation, which in turn leads to Daily Operations & Transactions, which then influence “Thing” again.
Part of a Process

Vehicle

Change in mix? Redistribute? Change manufacturer?

Provide tools to perform service

Work orders, fuel, usage

Cost per mile, fuel efficiency
Part of a Process

Maintenance Workflow

Improved workflow? Training? Updated maintenance plan?

Maintain operational health and cost of fleet

Downtime, customer satisfaction, maintenance costs

Work orders, labor, customer satisfaction
Part of a Process

Work Order Creation Process

Improved workflow? Decentralized control?

Optimal downtime utilization

Downtime, productivity, customer satisfaction

Work orders
Part of a Process

“Thing”

Objective/Goal

Changes to “Thing”
- System Flexibility
- Vendor Experience

Analysis & Evaluation
- Out-of-Box Tools
- Ability to Customize

Daily Operations & Transactions
- Automation
- Ease-of-Use

Comprehensive Tracking
Industry Specifics

AssetWORKS
Summary

- EAM should...
  - Provide comprehensive, out of the box functionality across the entire organization
  - Provide out of the box tools to automate data inputs and meet all data output needs
  - Support continuous process analysis and review, and be flexible enough to adapt to updated requirements

- EAM vendor must...
  - Possess fleet experience and customer base
  - Know and be able to speak to your business
  - Be committed to ease of use and system flexibility
Thank You

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