A proven Digital Asset Management approach: Success cases in Asset Management digitalisation projects

Asset Management digitalisation (1/2)

Rémy JACQUIER
OXAND General Manager
About us

OXAND is European leading firm in Risk & Asset Management for large infrastructure operators – Inspired by Nuclear standards

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OUR ACTIVITIES

OUR SECTORS

INFRASTRUCTURE
REAL ESTATE
ENERGY
INDUSTRY

SOFTWARE
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CONSULTING
TRAINING

OUR SOLUTIONS

OUR KEY FIGURES

80+ consultants
1500+ projects
€ 1150 billion worth of analysed assets
40 millions m² of real estate property analysed
250 scientific publications

www.railway-asset-management.org
Lesson 1.: Align your organisation

- Define strategic requirements and performance targets
- Assess the performance

Strategic Function
- Develop long term services and lifecycle strategies to optimize expenditure, risk and residual value
- Develop systems and processes for lifecycle analysis and planning

Delivery Function
- Exploitation and Maintenance

High level policies
- Align your organisation

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- Assess the performance

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- Exploitation and Maintenance

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Lesson 2.: Be gain-oriented

- Model refinement
- Asset decomposition
- Data mining
- IoT prioritised deployment

Continuous & Dynamic improvement through main contributors identification
Lesson 3.: Go step-by-step

Existing data within the client organisation, at the Asset Register level:
- Inventory and main characteristics from the studied perimeter:
  - (Date of first use / last replacement / Technical life time / Unit cost / Annual cost)
- Maintenance actions per component type:
  - Planned & unplanned actions:
    - (cost, cost type (OPEX/CAPEX), associated time of unavailability, periodicity)
  - Historical data of the actions performed per component
- Aging law and gravity (cf. “Better” section for details, initially estimated from technical experts knowledge, and historical data from CMMS system)
- List of the technical leverages impacting TCO through maintenance and design (scenario assessment)

Existing data within the client organisation, to be linked together with the Asset Register:
- Refinement of the failure probability evolution in time (LCC analysis, MTBF…)
- Formalised gravity quotation in case of a failure, refined with Financial databases (costs, over costs, unavailability, accessibility, safety, brand image…)
- Refinement of the maintenance action effects on failure probabilities (sensitive assets)
- FMEA

Data to be investigated after first simulations, and consolidated at multi-project scale:
- Data capitalisation through different projects, at global scale
- Refinement of the failure probability evolution in time (SCADA, IoT, Data mining…)
- Best maintenance practices for the Assets strongly contributing to the overall Profit & Loss

Typical situation & continuous improvement
Lesson 4.: Adopt generic and standard approach

with Simeo™

KPI’s (real) → Asset Performance Management → KPI’s (targets)

- Value Simulation
- Scenario Building
- Risk Profiling of aging assets
- Data Preparation

Inputs from Assets maintenance data (CMMS) and experts

- Predictive Analytics for investment scenario comparison
- OPEX/CAPEX Planning
- Aging and criticality

ISO 55000
Lesson 5.: Deploy innovation

- Machine learning to continuously improve ageing, maintenance & renewal laws
- Risk matrix in Building Information Modelling
UIC Railway Asset Management
Global Conference 2019

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UIC Headquarters, Paris

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