Infor EAM in the Handling Engineering Group

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Agenda

• Introduction Handling Engineering Group
• Statistics
• Dashboard
• Equipment
• Work Orders
• SAILOR Levage
• PM Schedules
• Pentaho Reporting
• Future Actions
Introduction EN/HE

• Provide transport and handling services
• Design, integration and feasibility studies
• Tendering and procurement, installation, commissioning, operation, maintenance and decommissioning
• Standard industrial and custom-built transport and handling equipment
  ➢ 4 maintenance contracts
  ➢ 1 operation contract
Statistics

Equipment by Class

- Total: 4,499

- Preventive Maintenance: 28% of total assets

- 127 Lifts
- 371 Overhead Cranes
- 544 Hoists
- 1125 Spreader Beams
- 2300 Transport and Lifting Vehicles
Statistics

• Work Orders: ~ 9000/year Created and Closed
• Documents: ~ 16,000
• Spare Parts: ~ 4000
  ▪ Parts Tracked by Asset ~ 50
  ▪ Assets ~ 330
Dashboard
Equipment - Structure

- Functional Positions: Equipment Structure
- Assets: Equipment follow-up
- Sub-Assets: Documentation and Part Structure
Equipment - EDMS Documents

- 16,000 Documents uploaded in EDMS (~40% digitalized Paper Documents)
- Linked to Assets in Infor EAM
**Equipment - Warranties**

- Most equipment 2 year warranty
- During this period maintenance should be done by manufacturer
- Manufacturer often not on-site
- Maintenance done by contractor as additional work
- Warning message when creating WO on Asset under warranty
Equipment - Meter Readings

- Hours
- Strokes
- Meter readings entered manually during each maintenance

*From tab “Meter Readings Graph” within Assets*
Equipment - Meter Readings

Analyze equipment usage for maintenance and consolidation:

- ~60% of Overhead Cranes are used less than 10h per year and another 20% between 10h and 30h per year
- Manufacturers consider 120h/year as normal usage, with maintenance every quarter or 30h
- Currently classic preventive maintenance once per year and twice per year for critical cranes (~500 interventions or 3500h)
Equipment - Meter Readings

New maintenance strategy as from 2022 for Cranes: (following manufacturer’s instructions and in agreement with HSE)

- New battery operated LoRa sensors on lifting part of Cranes (wireless Long-Range transmission with low power consumption)
  - Automatic read-out 1x per day
  - Data pushed to Infor
  - Estimated battery lifetime of 10 years
- Preventive Maintenance every 30h (minor) and 120h (major) or 5y
  - Nesting function in Infor for Type Variable?
- Most equipment only once per 5 year (still tested every year during periodic safety inspection!) and some equipment up to 4x per year
- Savings: at least 100 kCHF per year!
• New ADR Regulations* effective as from 2022
• Identify hazards and its quantity present in transport equipment (petrol, oil, battery...)
• Following identification define equipment that falls under ADR Regulations
• Make information ADR Yes /No available in EDH SIT Document when selecting equipment
• This may concern other groups!

*ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
Work Orders

• 4 Maintenance Contracts
• ~ 9000 WOs Created and Closed per year
• 7 WO Types
• 7 PM Schedules
• Standard WOs
• Usage Spare Parts
• Booked Hours
• Closing Codes
• Downtime Hours
SAILOR Levage

Periodic Safety Inspections (PSI):
- In-house development by HSE to improve follow-up of observations
- Link EDMS Reports of Periodic Safety Inspections to WOs
- PSI WO created by PM Schedule
- Observations in report automatically generate child WOs (one for each observation)
- Observation text copied to Comments of child WOs
- Link between child WO status and Report status
Preventive Maintenance Schedules

- **Lifts**: 4
  - **127 Assets**
  - Every 1, 2, 3 or 6 Months
- **Cranes & Hoists**: 1
  - **482 Assets**
  - Every 6 or 12 Months
- **Spare Parts**: 1
  - **36 Assets**
  - Every 24 Months
- **Periodic Safety Inspections**: 1
  - **3160 Assets**
  - Every 3, 6 or 12 Months
Pentaho Reporting

Number of Breakdowns in 2020
Total: 233

Month of Date Created

- Under Guarantee
- Stopped
- Running
- Misuse

Under Guarantee (67 - 29%)
Stopped (105 - 45%)
Running (55 - 24%)
Misuse (6 - 3%)
# Pentaho Reporting

## Number of Breakdowns in 2020

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## Number of Breakdowns in 2021

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Pentaho Reporting

Preventive Maintenance in 2021

Month of Scheduled Start Date

- Delayed
- In time
- Not completed

22-06-2021
Future Actions

- Standardize procedures and Pentaho Reports amongst different contracts within EN/HE
- Daily meter read-out via LoRa
- Safety – ADR Regulations
- Scheduling
- Cost Summary
Maintenance Management...

Thank you for your attention!

...is like a never ending road