OPERATIVE ASSET MANAGEMENT

BEST PRACTICE

Fölster | 30. November 2020



IMPLEMENTATION OF ASSET MANAGEMENT IN NETWORK O+M

ESTABLISHMENT OF A MORE STRATEGIC OPERATIVE ASSET MANAGEMNET AT HAMBURG WASSER AROUND 15 YEARS AGO

- Introduction of an unit "Assest Managemnet" which took the role of ownership within the department of Network Management
 - O+M Strategies
 - Rehabilitation Strategies
 - Investment Strategies
 - Technical and financial controlling

Target:

Keeping up the value and the function of our assets



AGENDA

3

- 1 INTRODUCTION
- 2 O+M AS PART OF ASSET MANAGEMENT
- 3 GUIDING QUESTIONS OF AM
- 4 IMPLEMENTATION
- 5 ADAPTION



ASSET OPERATION AND MAINTENANCE

British Standard BS 3811:1993 "Glossary of Terms in Terotechnology" finally defined 'Maintenance' as — "the combination of all technical and administrative actions, including supervision actions, intended to retain an item in, or restore it to, a state in which it can perform a required function".

- OPERATION AND MAINTENANCE (O&M) FUNCTIONS RELATE TO THE DAY-TO-DAY RUNNING AND UPKEEP OF ASSETS
- ARE PARTICULARLY RELEVANT TO SHORT-LIVED DYNAMIC ASSETS (SUCH AS PUMPS/VALVES) WHERE DETERIORATION THROUGH LACK OF REGULAR MAINTENANCE MAY RESULT IN RAPID FAILURE.
- PROPERLY OPERATING AND MAINTAINING ASSETS IS CRITICAL TO THE SUCCESS OF THE OVERALL PERFORMANCE.
- OPERATION AND MAINTENANCE IS DIRECTLY LINKED TO LEVEL OF SERVICE AND CRITICAL COMPONENTS.



What do I own?

Where are my

assets?

Assessments of assets

Location and system map

What is the condition of my asset?

Assessment of condition and rating

What is the remaining life of my assets?

- Assessing remaining useful lifetime (year of construction - expected lifetime by consulting projected-useful-life tables or decay curves)
- Asset Lifecycle Management

Asset

(in

Inventory

GIS/Finance)

What is value of my assets?

- Determining asset values and replacement costs.
- Longterm Investment planning (Decision for repair/rehabilation /exchange)



6

What do our assets need?

- Maintain function and value of asset
- Keep/extend expected lifetime

Asset Operation + Maintenance Strategy

When are we doing it?

- Scheduling planned activites and coordinate within network activites
- Plan Ressources and Equipment

Asset Operation + Maintenance **Schedule**



LIFECYCLE MANAGEMENT

Assessment of Condition

(Inspection Form/SOP)

Documentation/ GIS

Adapt Maintenance needs

Analysis (Needs + Lifetime)

Decision (Repair/ Investment Strategy



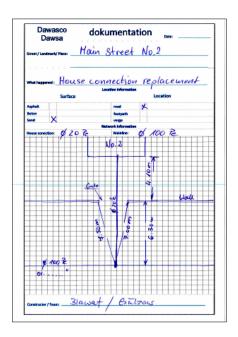
What do I own?

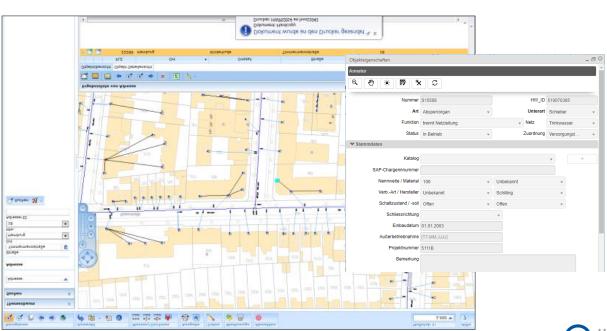
> Assessments of assets

Where are my assets?

Location and system map

Asset Inventory (in GIS/Finance)





IMPLEMENTATION OF OPERATIVE AM - PROCESS

What is the condition of my asset?

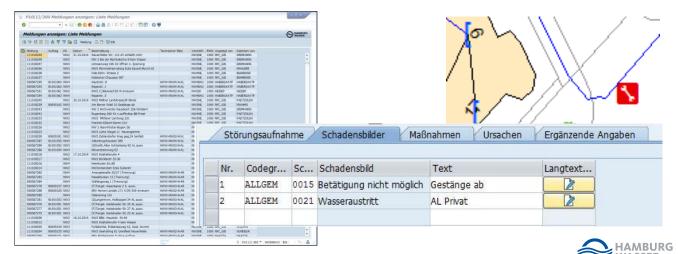
- Assessment of condition and rating
- Assessing remaining useful lifetime (year of construction - expected lifetime by consulting projected-useful-life tables or decay curves)

Asset Lifecycle Management

Documentation of activities and condition

Development of failure codes





GUIDING QUESTIONS FOR THE AM - PROCESS

What is the remaining life of my assets?

What is value of my assets?

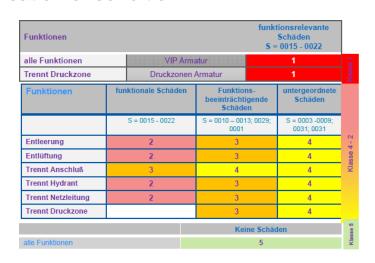
 Assessing remaining useful lifetime (year of construction - expected lifetime by consulting projected-useful-life tables or decay curves)

- Determining asset values and replacement costs.
- Longterm Investment planning (Decision for repair/rehabilaition /exchange)

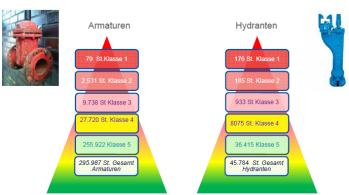
Asset Lifecycle Management

Strategic Rehabilitation:

- Failure Analysis
- Classification of condition



PRIORISIERUNG INSTANDSETZUNG ARMATUREN





GUIDING QUESTIONS FOR THE AM - PROCESS

What do our assets need?

- Maintain function and value of asset
- > Keep/extend expected lifetime

Asset Operation + Maintenance Strategy

Example Strategy for Water network

Assets	Activity	Zyklus
Leak detection	Network is checked for leackages	5 Years
Control of valves	Valves are checked in position and function	8 Years
Control of hydrantes	Hydrants are checked in position and function	4 Years
Control of assets in external property	If assets are in areas which are not public, their access and needs to be checked	1 Year
Dienstbarkeiten	Nichtöffentliche Flächen, welche das eigene Netz überdecken, werden auf Zugänglichkeit kontrolliert.	1 Year
Controll of pressure zone valves	Condition and function (position)	1 Year



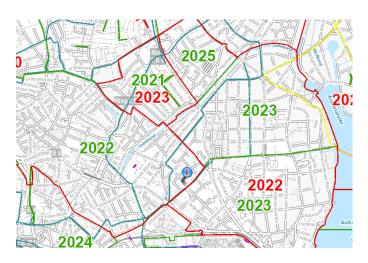
GUIDING QUESTIONS FOR THE AM - PROCESS

When are we doing it?

- Scheduling planned activites and coordinate within network activites
- Plan Ressources and Equipment

Asset Operation + Maintenance **Schedule**

Example for scheduled preventive Maintenance scheduleLeak detction and Control of valves



Assessmenet of repair needs

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StörBeginn	30.03.2016 10:25:00						
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Meldender	DOM\AMUNDSEN						
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Equipment	510195193 AV24						
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➢ HOW GOOD DO I KNOW MY NETWORK?

> WHO IS TAKEN THE OWNERSHIP?

THREE GENERAL STRATEGIES

High risk for water supply systems

Fireworks strategy

Only reaction on failures/disturban ces

- Corrective maintenance

No risk but high costs

Preventive maintenance

Preventive and corrective maintenance in defined interval

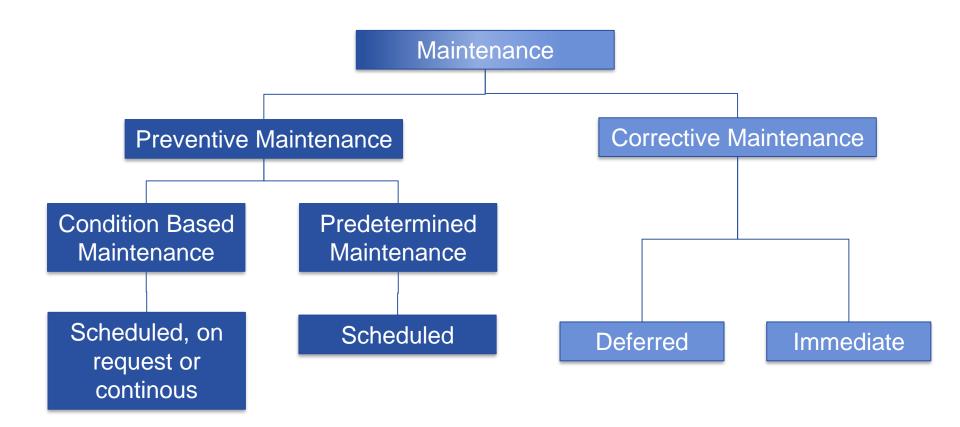
Consideres
longterm
needs:
efficient
and no risk

Preventive and condition based maintenance

Preventive and corrective maintenance which orientates along condition, prioritasation, expected lifespan



DEFINITIONS OF MAINTENANCE





ORGANISATIONAL PRINCIPALS OF THE NETWORK MANAGEMENT DEPARTMENT AT HAMBURG WASSER

CENTRAL NETWORK ADMINISTRATION

- Strategic O+M
- Rehabilitation planning
- Investment planning
- Hydraulic calculation
- Controlling

DECENTRAL O+M DEPARTMENTS

- Preparation of O+M
- On site O+M unit preventive maintenance
 - Immediate repair unit



DECENTRAL O+M DEPARTMENTS

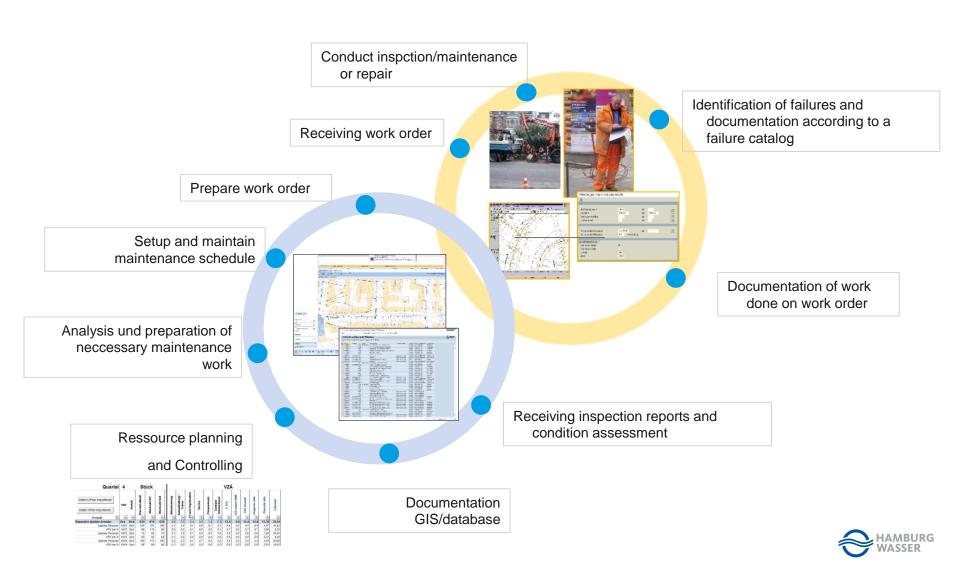
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DECENTRAL O+M DEPARTMENTS

- Preparation of O+M
- On site O+M unit preventive maintenance
- Immediate repair unit



WHO: Documentation and preparation Repair and Maintenance units



THANK YOU FOR YOUR ATTENTION

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