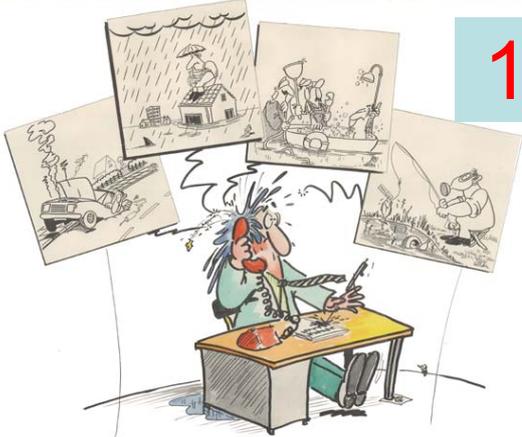


**Asset management and ISO 55000 series**

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IKT 16<sup>th</sup> September 2014

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**1**

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**2**

wastewater system: assets

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**Contents**

- Introduction
- Asset Management
- PAS 55
- ISO 55000 series
- Conclusions

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**Standards as basis of our professional and private life**

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**Asset management: General**

- Container-term; hype....?
- Assets:
  - Entities, "things", components, objects
  - Tangible, non tangible
- Management:
  - Coordinated activities (systematically)
- Basic theory
- Management philosophy

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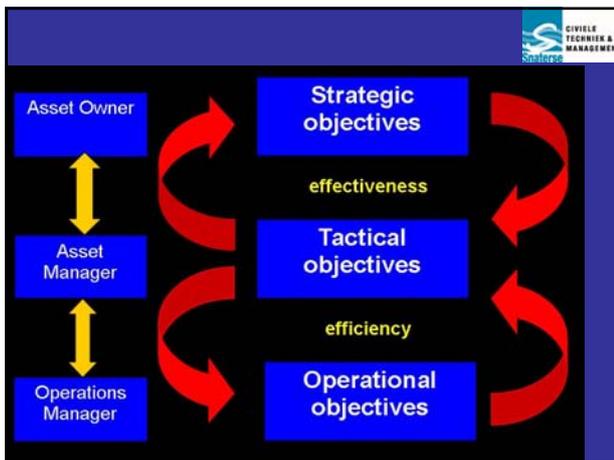
## General systems theory

- System:
  - Entities (components) and relations
- Systems and subsystems
- Context
- Systematic Strategic Asset management needs decomposition and multi level analysis

- *there is nothing so practical as good theory (Lewin, 1951)*

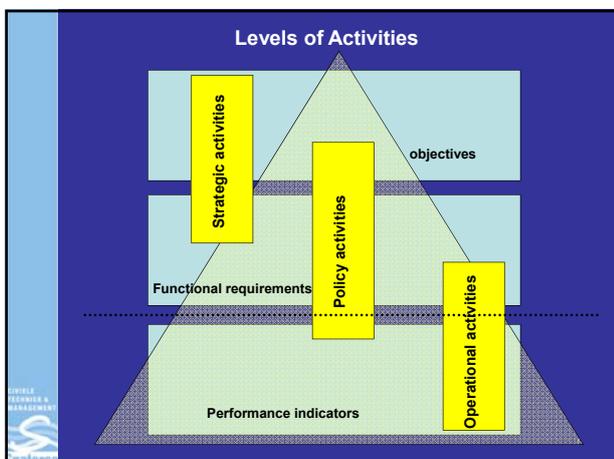
Hierarchic level	Goal function	Means
Hydrologic cycle; Public domain		Urban water system
Urban water system	Public Health and safety	Wastewater system Surface water system
Wastewater system	Collection + transport + treatment of wastewater	Sewer system Wastewater treatment plant
Sewer system	Collection + transport of wastewater	Pipelines Pumping stations Overflows Drains
Objects Further subsystems	Collection of wastewater	Pipes Manholes Connections Etc...

## structure physical system: levels of analysis



## Aspects of AM

Aspect	Strategic	Tactical	Operational
Roles	- Asset owner - Responsible body - Top management	- Asset manager	- Operations manager
Topics	- Who are we? - What is our vision and mission? - What direction to go?	- What to do?	- How to do?
Primary responsibilities	- Stakeholder satisfaction - Setting direction	- Doing the right things at the right time	- Doing things the right way
Objectives	- Strategic goals	- Performance (functional) requirements - Process requirements	- Operational goals - Performance indicators
Risk management	- Risk assessment global context	- Risk assessment investments and operations	- Risk based operations

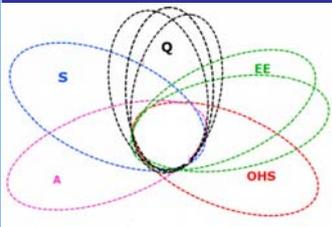


**Asset management PAS 55**

- UK Situation 2004
- Regulator
- Physical Assets

## ISO 55000 series (1)

- ISO Management System Standards
  - ISO Guide High Level structure for MMS



- Core:
- Identical structure
  - Identical terms
  - Same basic requirements
  - Comparable text

## ISO 55000 series (2)

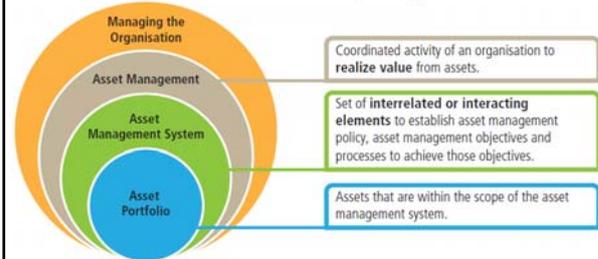
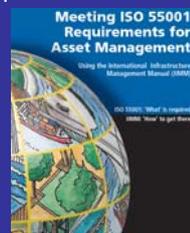


Figure 1 Asset Management and the Asset Management System (Ref ISO 55000:2014)

## ISO 55000 series (3)

- ISO 55000: Overview, principles and terminology
- ISO 55001: Requirements
- ISO 55002: Guidelines for application of ISO 55001



## ISO 55000 series: content (1)

- Value
  - Relation between activities and mission, vision, and objectives organisation
  - Stakeholder value
- Plan-do-check-act

## ISO 55000 series: content (2)

- Coordination
- Roles, responsibilities, authority
- Leadership
- Personnel: qualified, competent, education
- Integrated asset management processes
- Risk-based
- Certification

## ISO 55001

- Requirements:
  - Organisational context
  - Leadership
  - Planning
  - Support
  - Implementation
  - Evaluation
  - Continuous improvement



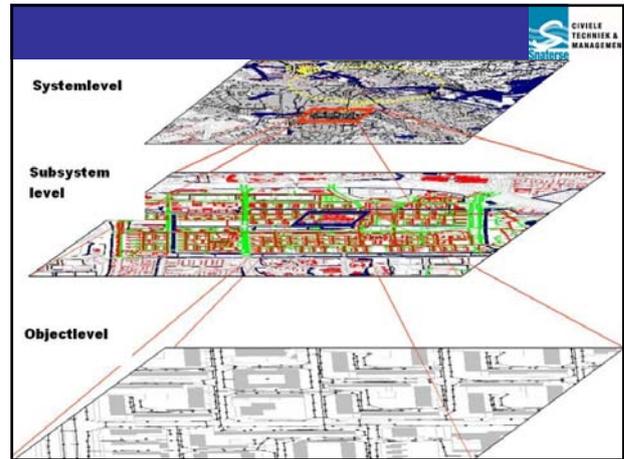
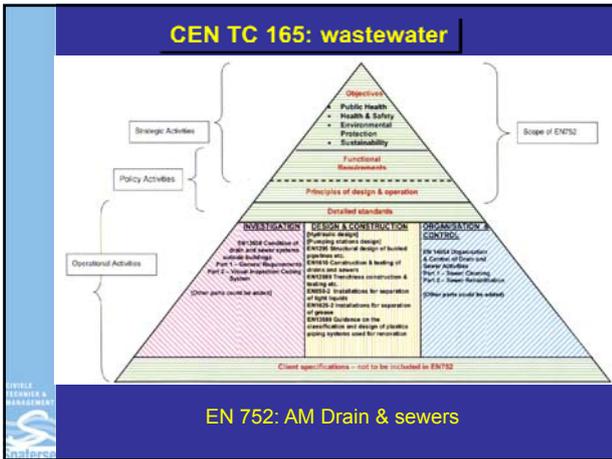
## ISO Developments

ISO TC 224  
WG 6 Asset Management

**Work program**

- ISO 24515 Guideline for the infrastructure asset management (IAM) of drinking water and wastewater systems
- ISO 24516 Guidelines for the management of assets of water supply and wastewater systems
  - Part 1: Drinking water distribution networks
  - Part 2: Drinking water plants including treatment, pumping and storage (also in the network)
  - Part 3: Wastewater collection networks
  - Part 4: Wastewater Treatment plants (including pumping and sludge treatment)
- ISO 24523 Service activities relating to drinking water supply systems and wastewater systems — Guidelines for benchmarking of water utilities

**Based on EN 752** →



	Health and safety	Operational Health and Safety	Environment	Sustainability
Protection of flooding	xxx	xx	xxx	-
Maintainability	xx	xxx	xx	xx
Protection of surface receiving waters	xxx	x	xxx	xx
Protection of groundwater	xxx	-	xxx	xxx
Prevention of colours and toxic, explosive and corrosive gases	xxx	xxx	xxx	xxx
Prevention of noise and vibration	xx	xxx	x	x
Sustainable use of products and materials	-	-	xx	xxx
Sustainable use of energy	-	-	xx	xxx
Structural integrity and design life	xxx	xxx	xxx	xxx
Maintaining the flow	xxx	-	xxx	x
Waterdichtheid	xxx	x	xxx	xx
Not endangering adjacent structures and buildings	xxx	xxx	x	xx
Input quality	xx	xxx	xxx	xx

## Conclusions

- What is new.....?
- Aspects: development, stakeholder value, risk analysis (as tool), results
- CEN has a comprehensive set of standards for activities and management of assets in wastewater systems
- Focus:
  - CEN = content, assets and activities; ISO = management

## Conclusions

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## Without standardisation...

