IAWD International Association of Water Supply Companies in the Danube River Catchment Area

PROTECTUM Solutions

Danube Learning Partnership

Water Safety Planning and Crisis Management

Essential Management Tools for Water Utilities

Goals

- Strengthen against
  all kinds of hazards
- Methodology to
  manage hazards and risks
- Comply with
  EU and international standards

Goal

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investment < Benefits

Agenda

- Methodology
- Content
- Successfully Implemented Programs
- Training WSP & Crisis Management
- Government CM: Similarities and Synergies
- The COVID-19 Pandemic and WSP / CM

Methodology

Methodology

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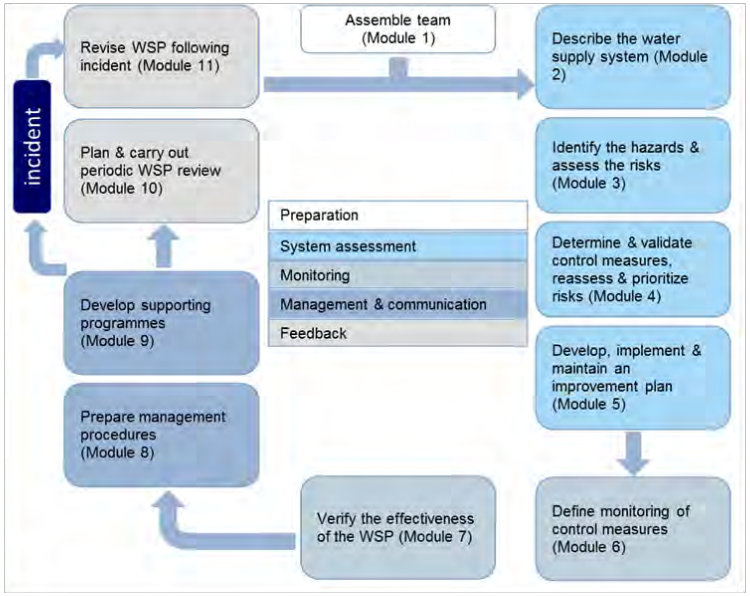
BEFORE it happens

Water Safety Planning

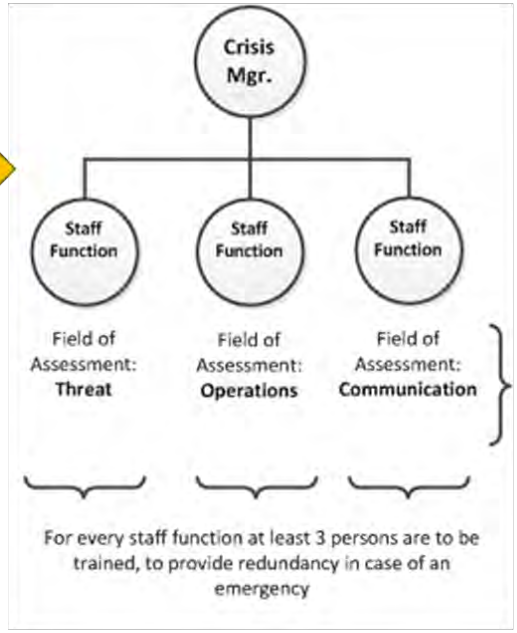


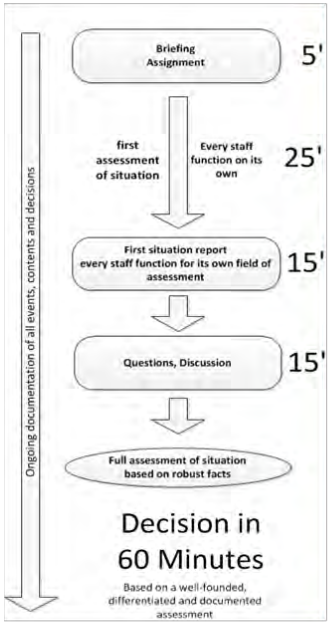
escalation

prevention

WHEN it happens

Crisis Management

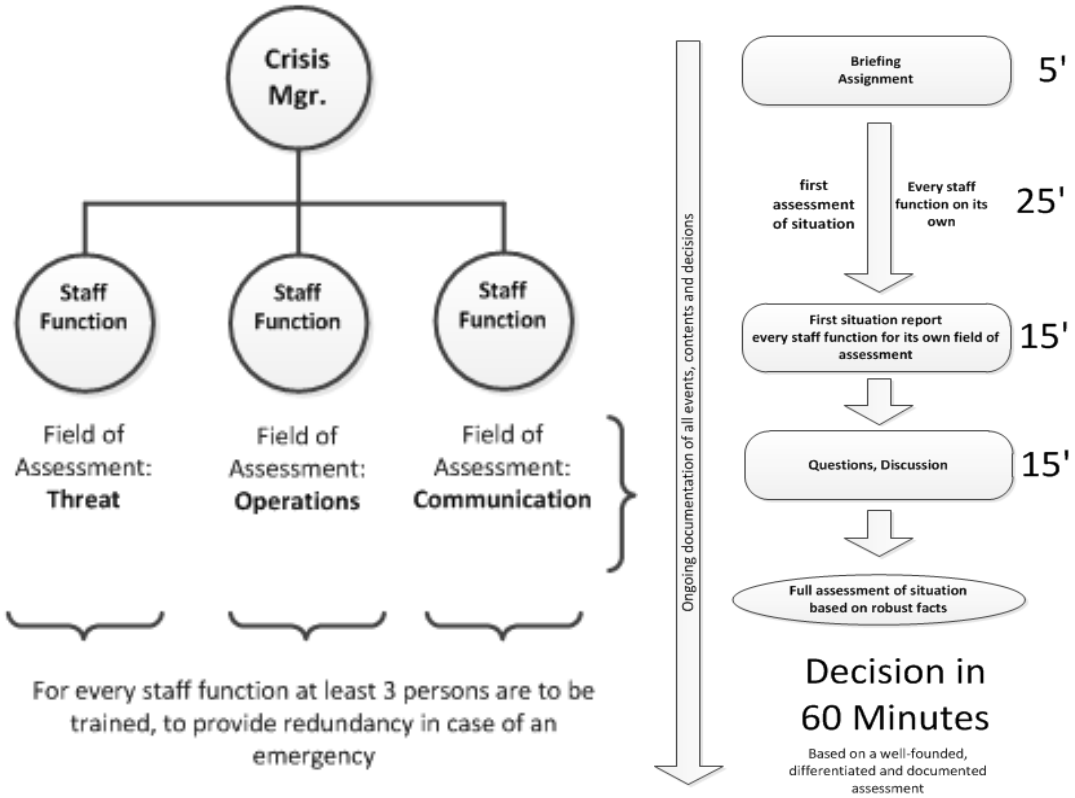




→ **Methodology easiliy applicable to other Public Utilities like Wastewater, Electric Power, Gas & Heat supply, Public Transport, etc.**

Methodology

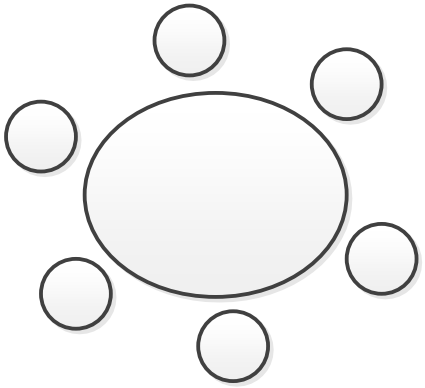
- **Crisis Management**



Benefits:

- Clear assignment
- Clear distribution of responsibilites in the crisis management staff – no redundant, double-tracked work
- Multiple increase in efficiency and clarity by the staff functions‘ simultanous assessment of the situation in different fields
- Discussion based on recent facts, not on impressions or previous knowledge
- Full documentation of the crisis management process

Improvised CM



Briefing

Discussion among all participants, approx. 10 minutes per participant, variable, partly random

60'

Assessment of the situation
Basis: known facts before the meeting

Decision in 60 minutes

- All participants must listen the full time, while one person speaks -> inefficient
- Partly influenced by random factors (composition of the group, weight of the specific participants / topics in the discussion)
- While the discussion goes on, new information hardly enters the discussion hinein
- Good documentation of the content is challenging
- Decisions often are not clearly founded

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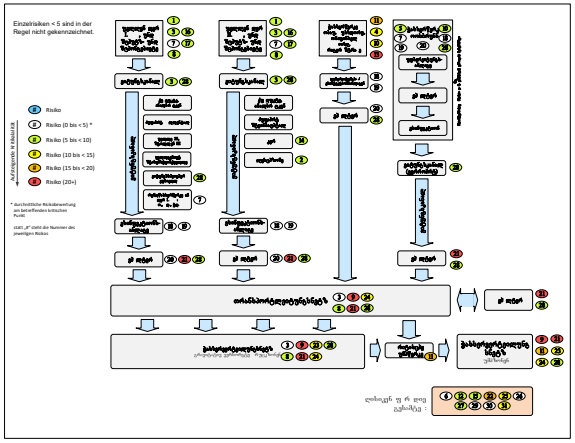
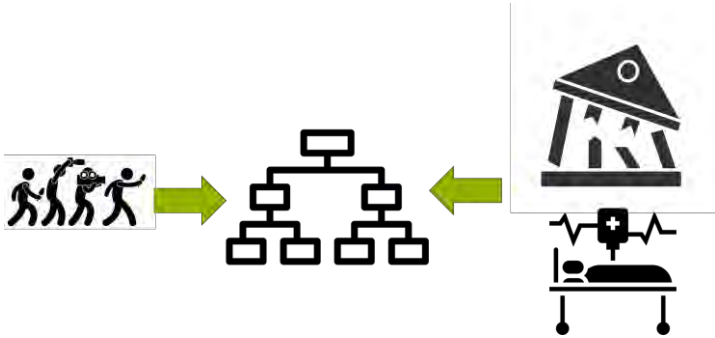
Content

Content

- Water Safety Planning:
  - Flow Charts. Added: Criticality Analysis
  - Risk Identification and Risk Assessment
  - Control Measures
  - Improvement plan
  - Control Points



- Crisis Management
  - CM Manual: organisation and procedures
  - CM Basic Training
  - CM Exercise



Successful Programs

Successful programs

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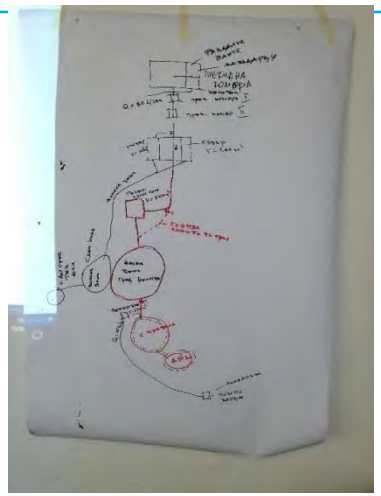
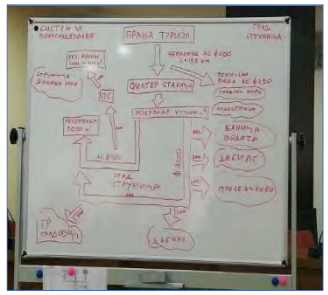
Kocani



Negotino

Prilep

Strumica



Aspects of Training

Aspects of Training

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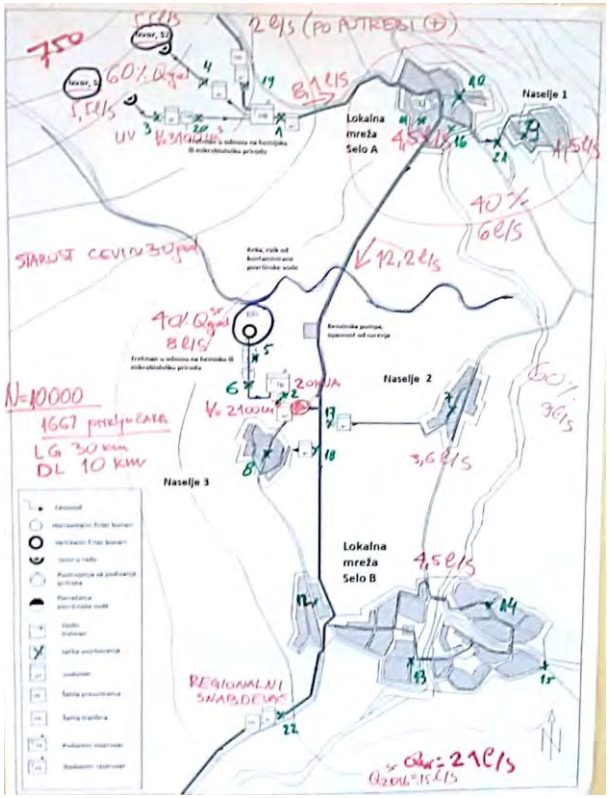
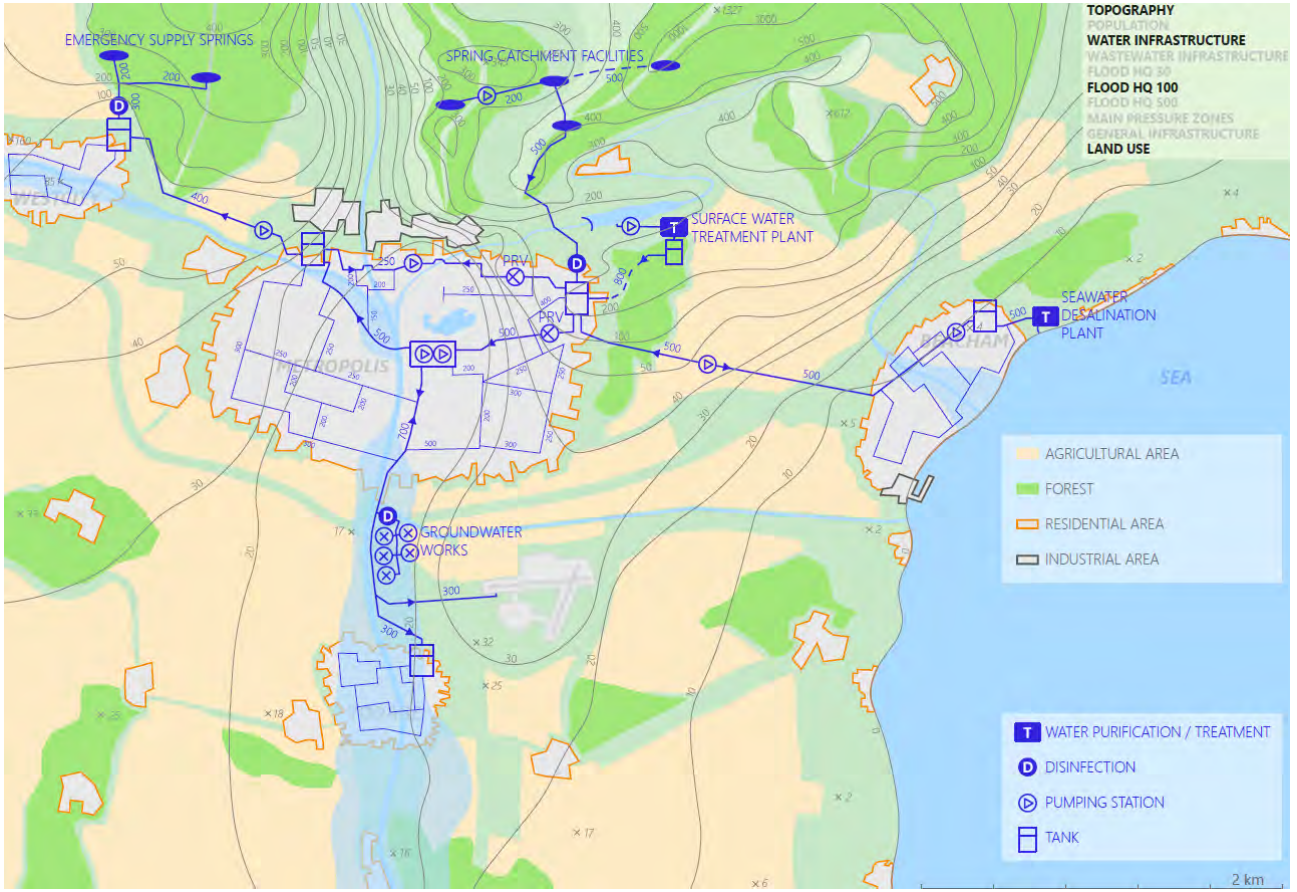
- Risk Identification and Assessment

Category	Description	Facility/ Position = Critical Point	Likelihood	Severity of Consequences	Riskscore	Control Point	Measures for risk mitigation/ reduction	Risk owner	Status	Validation	Documentation
1.4	Industrial and commercial buildings, gas station: leakage and contamination of groundwater with oil/ fuel	Catchment area, Spring 1	1	4	4	dispatcher/ engineer on duty	already implemented: continuous SAK measurement at treatment facility, monthly inspection of protection zone additional measures: direct contact and exchange of alerts and information with local manufacturers	Head of water capturing		yearly	SAK database; plant permits industrial plant ABC
1.5	Storage of water-polluting solids: leakage and contamination of groundwater with dung/ nitrate	Catchment area, Well, Spring 1, Spring 2	2	3	6	dispatcher/ engineer on duty	already implemented: regular water analyses (nitrate), monthly inspection of protection zone additional measures: direct contact and exchange of information with local farmers	Head of water capturing		yearly	water quality analysis reports, technical inspection reports
3.1	Fertilizer: leakage and contamination of groundwater	Catchment area, Spring 1, Spring 2, Well	2	3	6	dispatcher/ engineer on duty	already implemented: regular water analyses (nitrate), monthly inspection of protection zone additional measures: direct contact and exchange of information with local farmers	Head of water capturing		yearly	water quality analysis reports, technical inspection reports
3.2	Use of pesticides: leakage and contamination of groundwater	Catchment area, Spring 1, Spring 2, Well	2	3	6	dispatcher/ engineer on duty	already implemented: regular water analyses (pesticides), monthly inspection of protection zone additional measures: direct contact and exchange of information with local farmers	Head of water capturing		yearly	water quality analysis reports
4.1	Streets: leaking oil, petrol after accidents, contamination of groundwater	Catchment area, Spring 1, Spring 2, Well	1	4	4	dispatcher/ engineer on duty	already implemented: regular water analyses (chemical parameters), monthly inspection of protection zone	Head of water capturing		yearly	water quality analysis reports
5.1	Surface water (streams, pond, Precipitation): Danger of polluted surface water contaminating groundwater	Catchment area, Well, Spring 1, Spring 2	3	4	12	dispatcher/ engineer on duty	already implemented: regular water analyses, monthly inspection of protection zone, connection to regional supplier additional measures: improve construction state of water extraction plant	Head of water capturing		yearly	water quality analysis reports, technical inspection reports
5.2	Flooding and alluvial: Danger of floods contamination of groundwater	Catchment area, Well	2	4	8	dispatcher/ engineer on duty	already implemented: regular water analyses, monthly inspection of protection zone, connection to regional supplier, flood early warning mechanism	Head of water capturing		yearly	hydrological reports, water quality analysis reports, technical inspection reports
7.1	Unsecured entrance, contamination of resources	Well, Spring 1, Spring 2	3	2	6	dispatcher/ engineer on duty	install access controls	Head of water capturing		yearly	technical inspection reports, water quality analyses



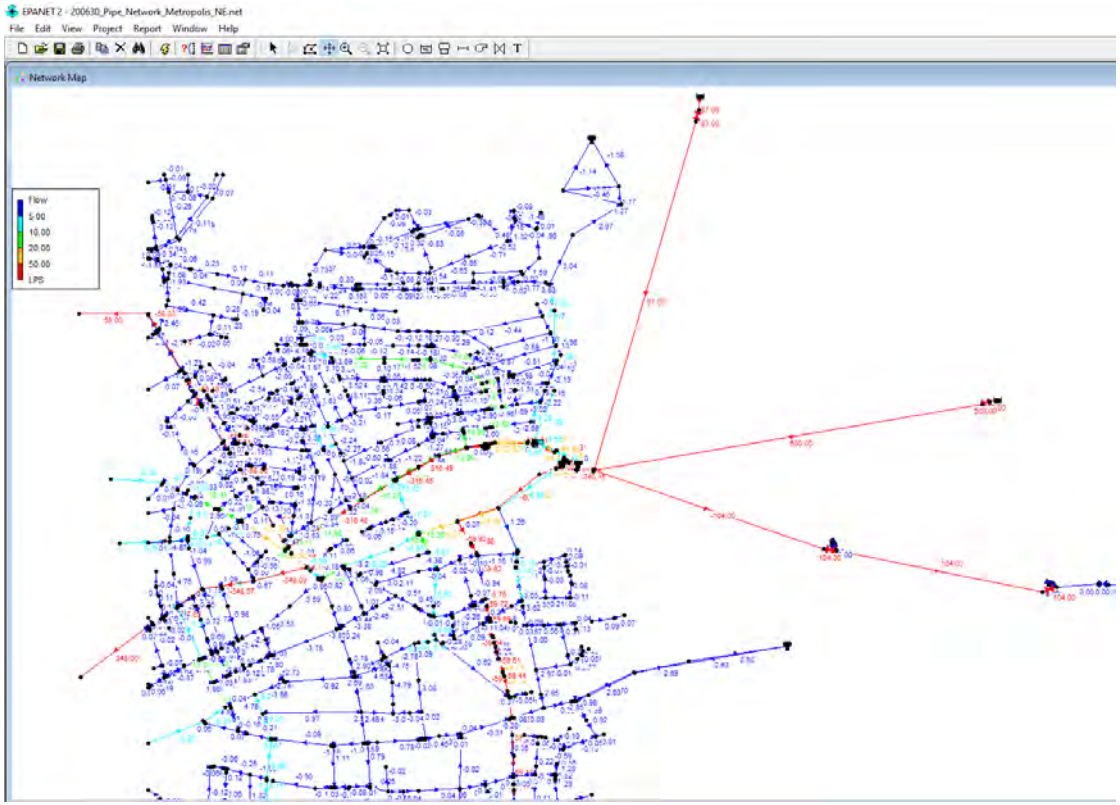
Aspects of Training

- Multilayered Map



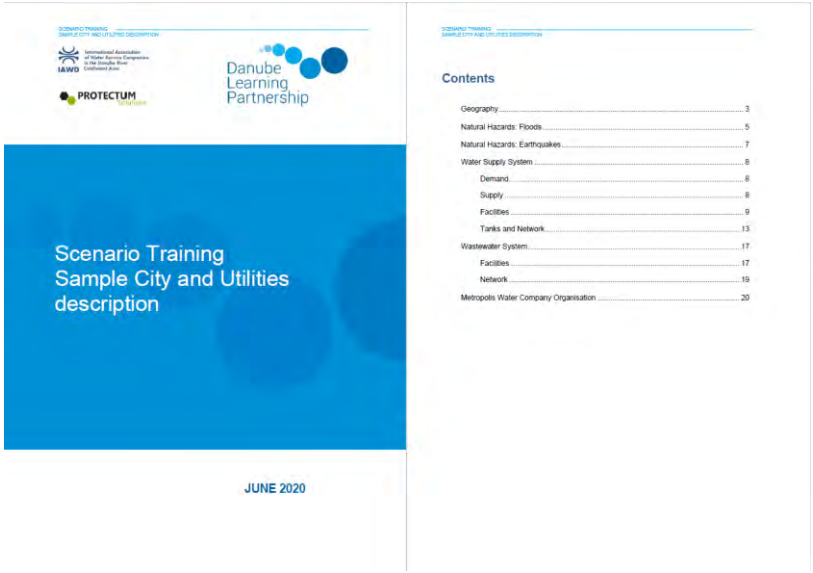
Aspects of Training

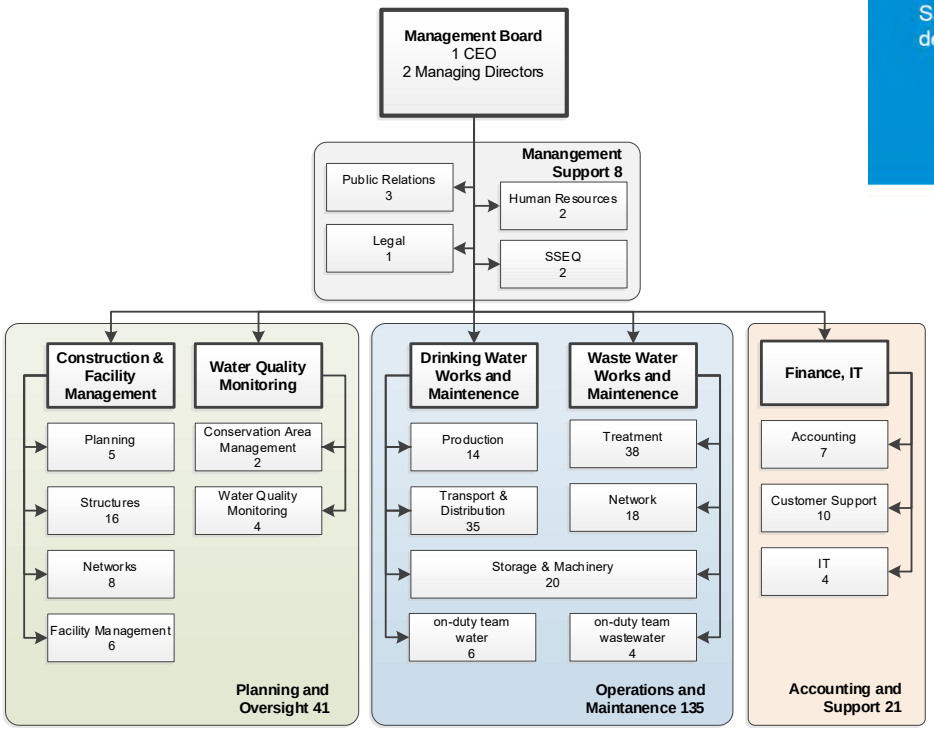
- Pipe Network Simulation



Aspects of Training

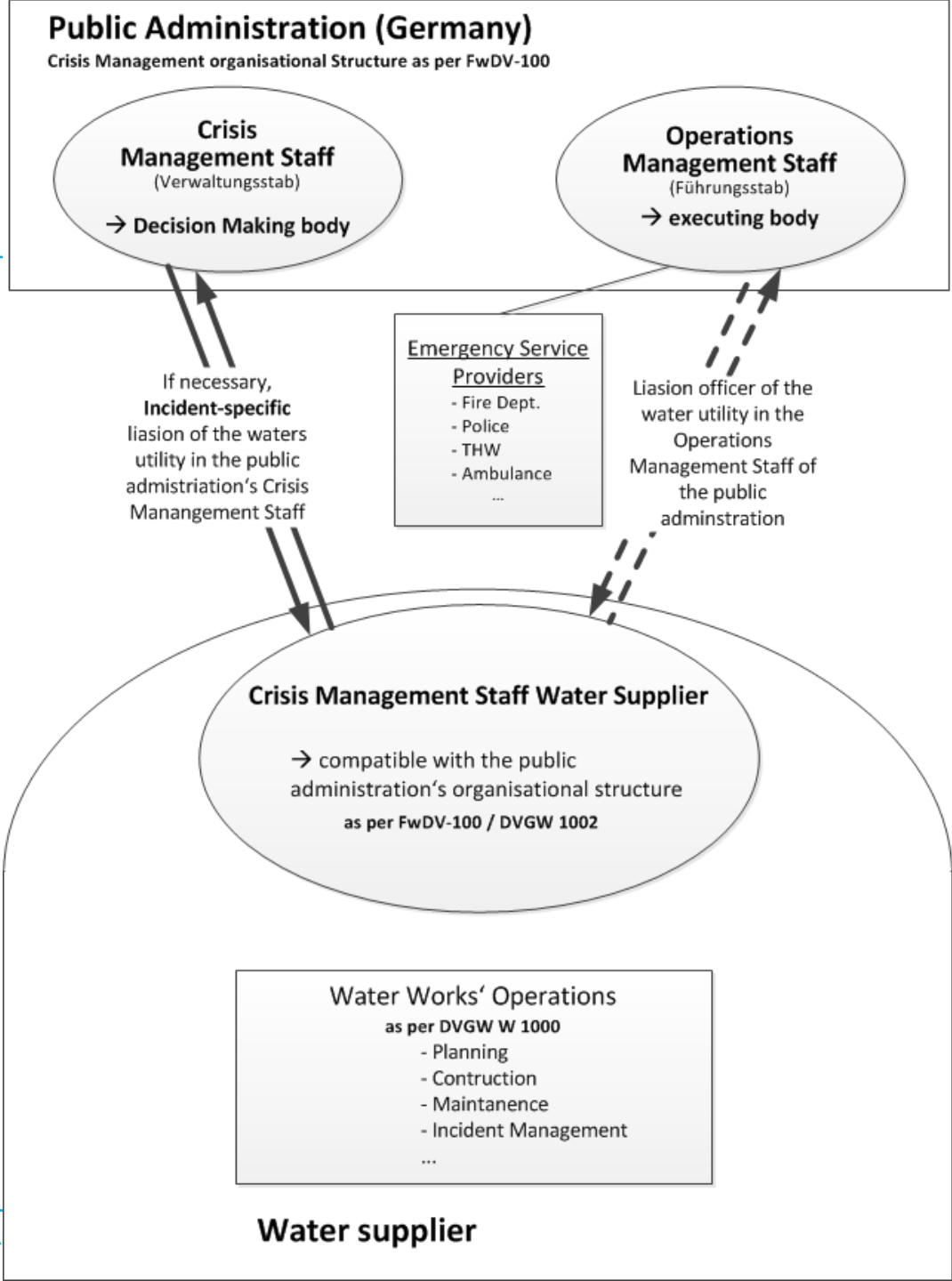
- Detailed model water company



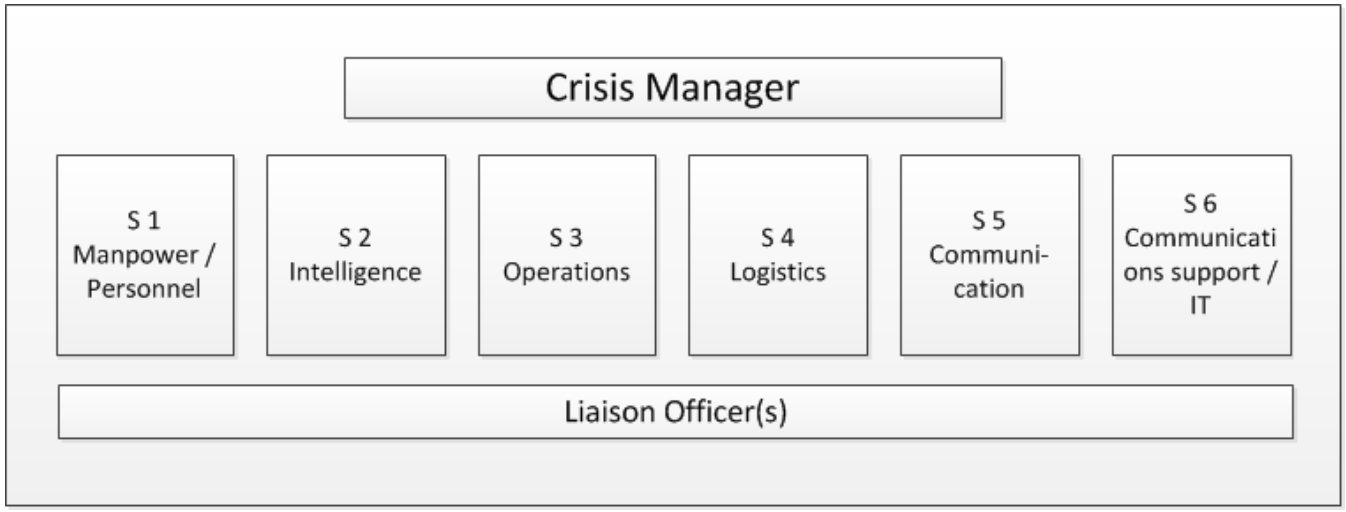


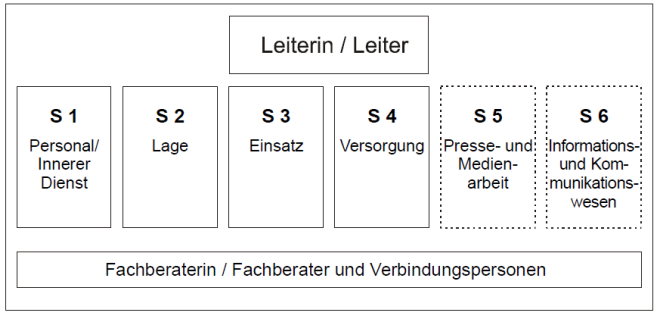
Government CM: Similarities and Synergies

Compatibility with municipal / regional / state Crisis Management



Compatibility with municipal / regional / state Crisis Management

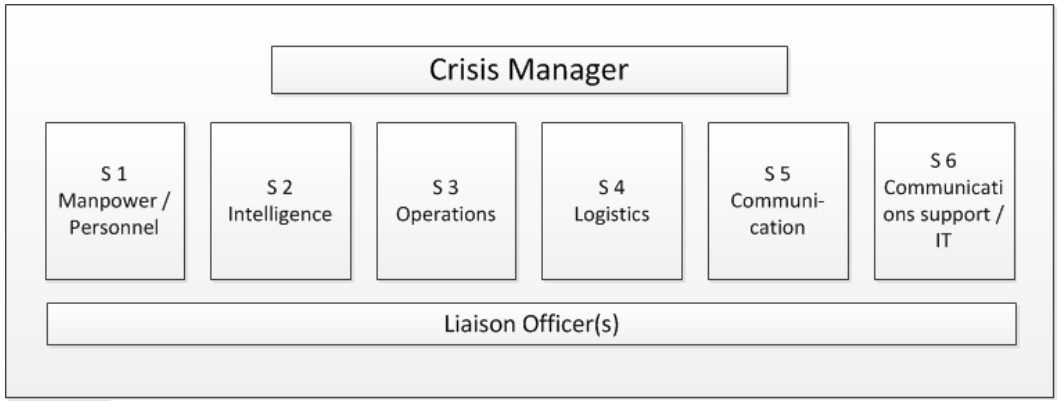




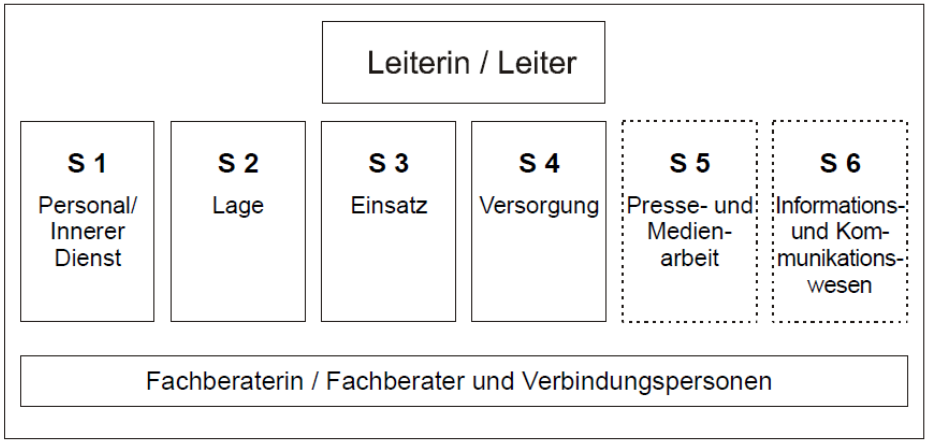
Compatibility with municipal / regional / state Crisis Management

- The public administration uses the same methodology and oranisational structure in Crisis and Disaster Management

Our base model
for Crisis Managenent →



German model for public admin., emergency service providers as per FwDV 100, also used in DVGW W 1002 →



The COVID-19 Pandemic and WSP / CM

The COVID-19 Pandemic and CM: Phased Approach

Pandemics scenario 2018

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Water Safety and Crisis Management
Business Continuity Essentials for Disaster Management

Crisis Management - Training

Basic Exercise Crisis Managers

Pandemic

Pandemics preparedness plan 2005

II. Durchführung — Seite

The COVID-19 Pandemic and WSP / CM

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- Define phases of epidemic / pandemic
  - Compatible with your national pandemics plan
  - Compatible with your regional / municipal pandemics plan
  - Compatible with your own organisation
- Sample phases:
  - **Phase 1:** pandemic breaks out somewhere in the world
  - **Phase 2 a**: first case in your country
  - **Phase 2 b:** first case in your city / region
  - **Phase 3:** mass infections and / or first pandemic case in your own organization
  - **Phase 4:** recovery phase

→ Use available Crisis Management tools / methodology

The COVID-19 Pandemic and CM: Phased Approach

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  - **Phase 4:** recovery phase

→ Use available Crisis Management tools / methodology

Resume

Goal

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Benefits

- Prepare for hazardous incidents before they happen (WSP)
- Continously improve resilience to known risks (WSP)
- Increased awareness for vulnerabilities (both)
- Improve resilience to *any* risk (CM)
- Rapid coordinated state-of-the-art response when risks materialize (CM)

References

- ISO 22301 Business Continuity Management
- EN-15975-1 Crisis Management
- EN-15975-2 Risk Management

Thank you

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PROTECTUM Solutions

The Danube Learning Partnership is supported by

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