

RESCUE-MATE

Dynamic Situational Awareness Generation and
Support for Emergency Forces in Complex Crisis
Situations through Data Fusion and Intelligent
Drone Swarms

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 Data Week Leipzig 2026



Hamburg



RESCUE-MATE

Gefördert durch:



Bundesministerium
für Forschung, Technologie
und Raumfahrt

Mediaserver Hamburg / Maxim Schulz

RESCUE-MATE



- Funded by the German Federal Ministry of Research, Technology and Space (BMFTR) [Oct 2023 – Sep 2027]



Hamburg

Behörde für Inneres
und Sport



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DER FORSCHUNG | DER LEHRE | DER BILDUNG



POLIZEI
Hamburg



FEUERWEHR
HAMBURG



HafenCity
Universität
Hamburg

HiTec
HAMBURGER INFORMATIK TECHNOLOGIE-CENTER

Technisches
Hilfswerk



HPA
Hamburg Port Authority



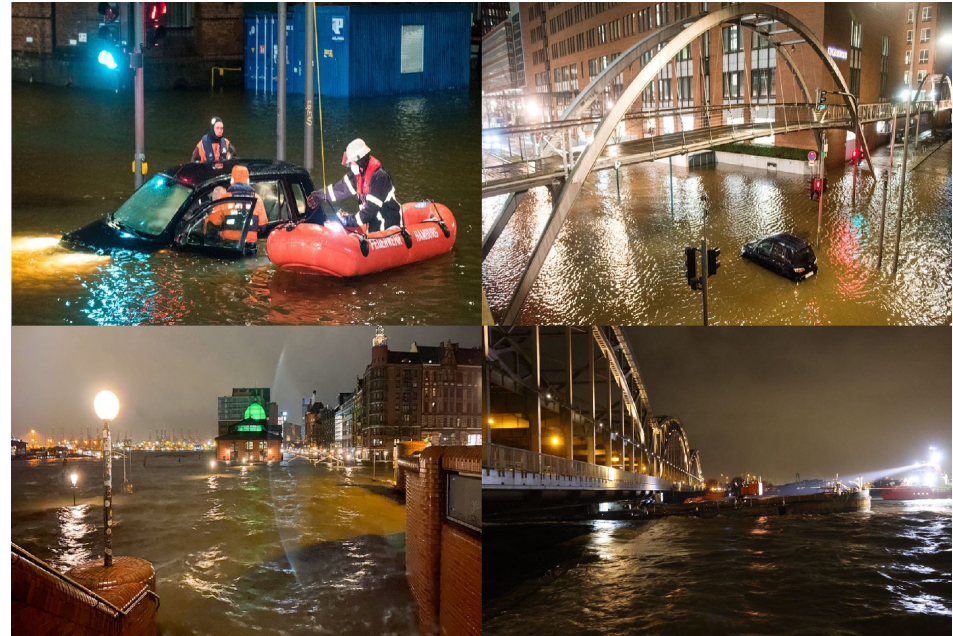
LSBG
Landesbetrieb Straßen,
Brücken und Gewässer
Hamburg



Data Week Leipzig 2026

Scenario

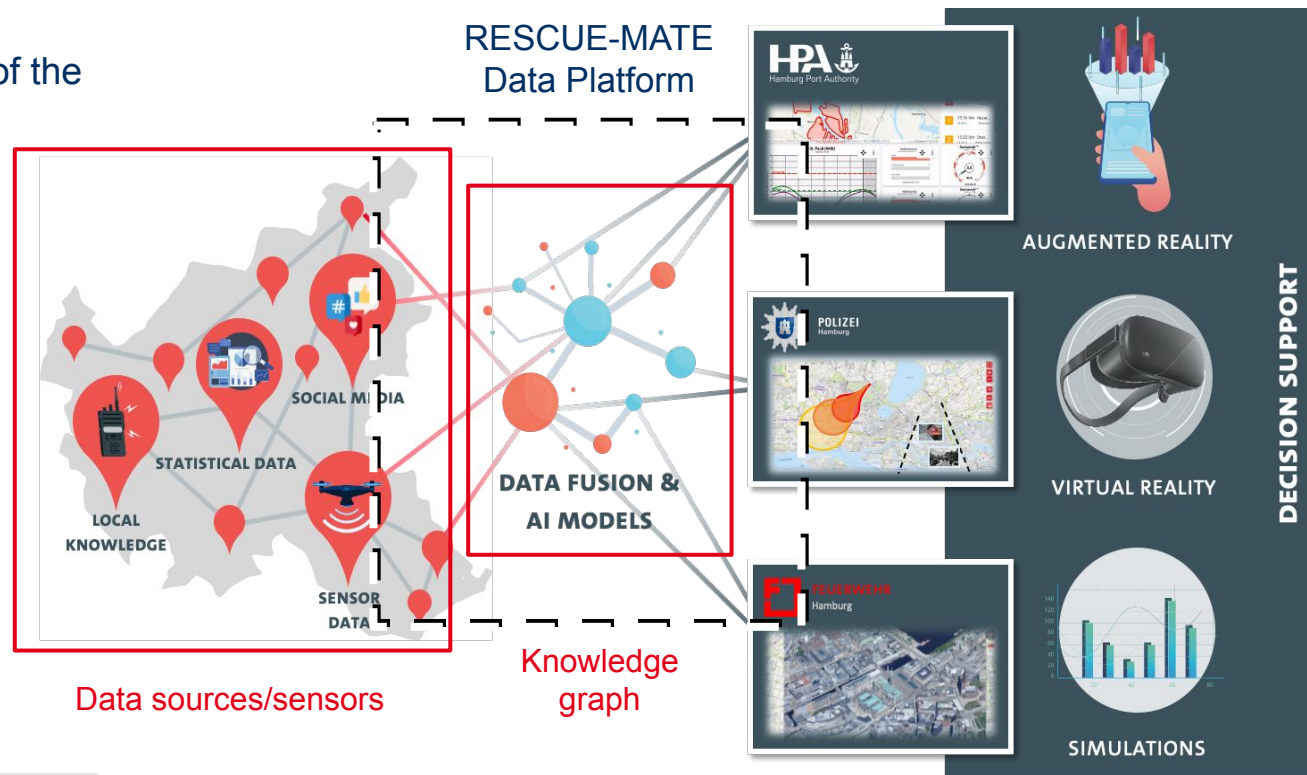
- Storm surge 7 meters above sea level
- Port and regions close to the port flooded
 - Evacuations
 - Rescue operations
- Data fragmented/information not captured
- Different information systems

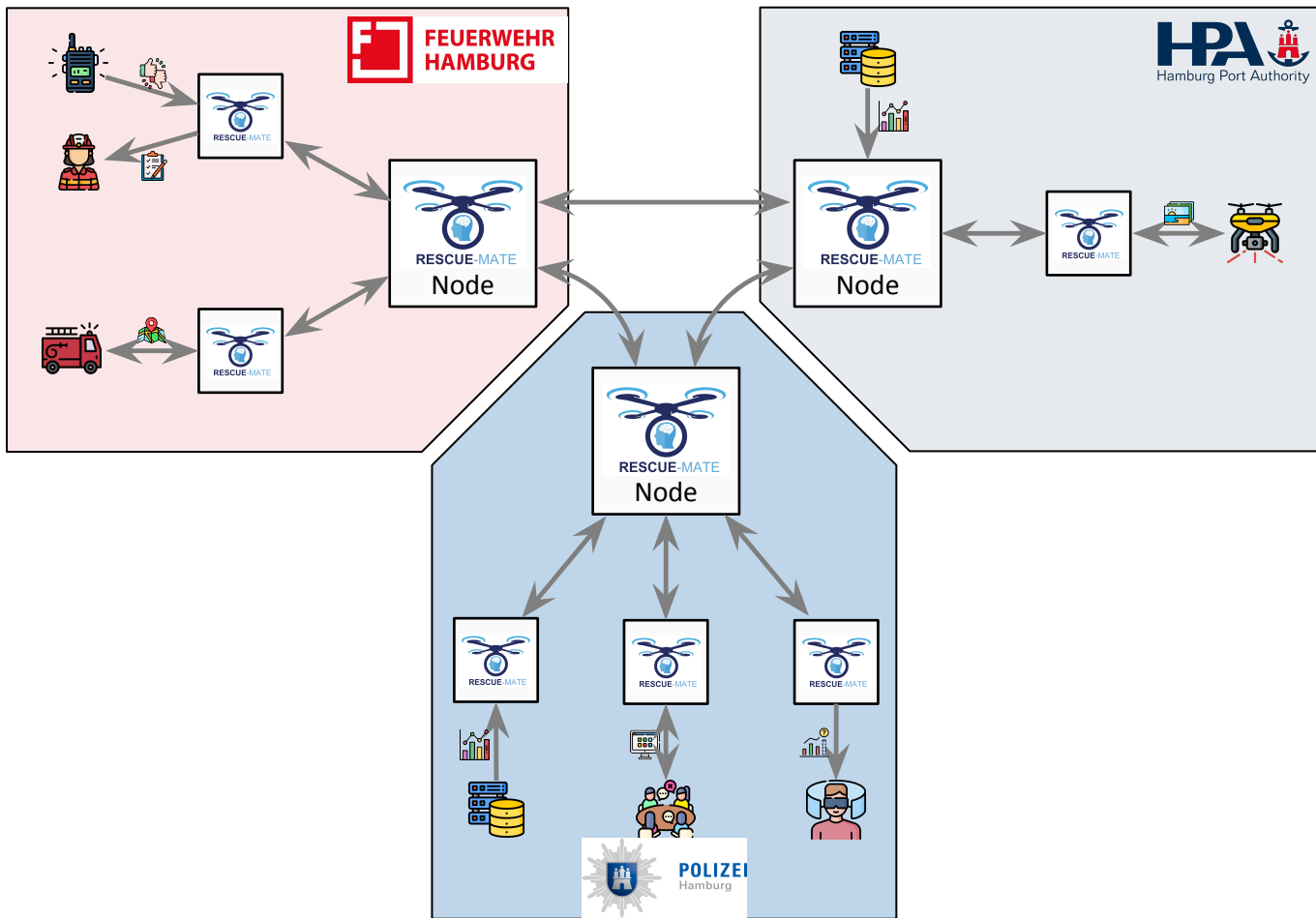


Photos: Storm surge in Hamburg (HPA)

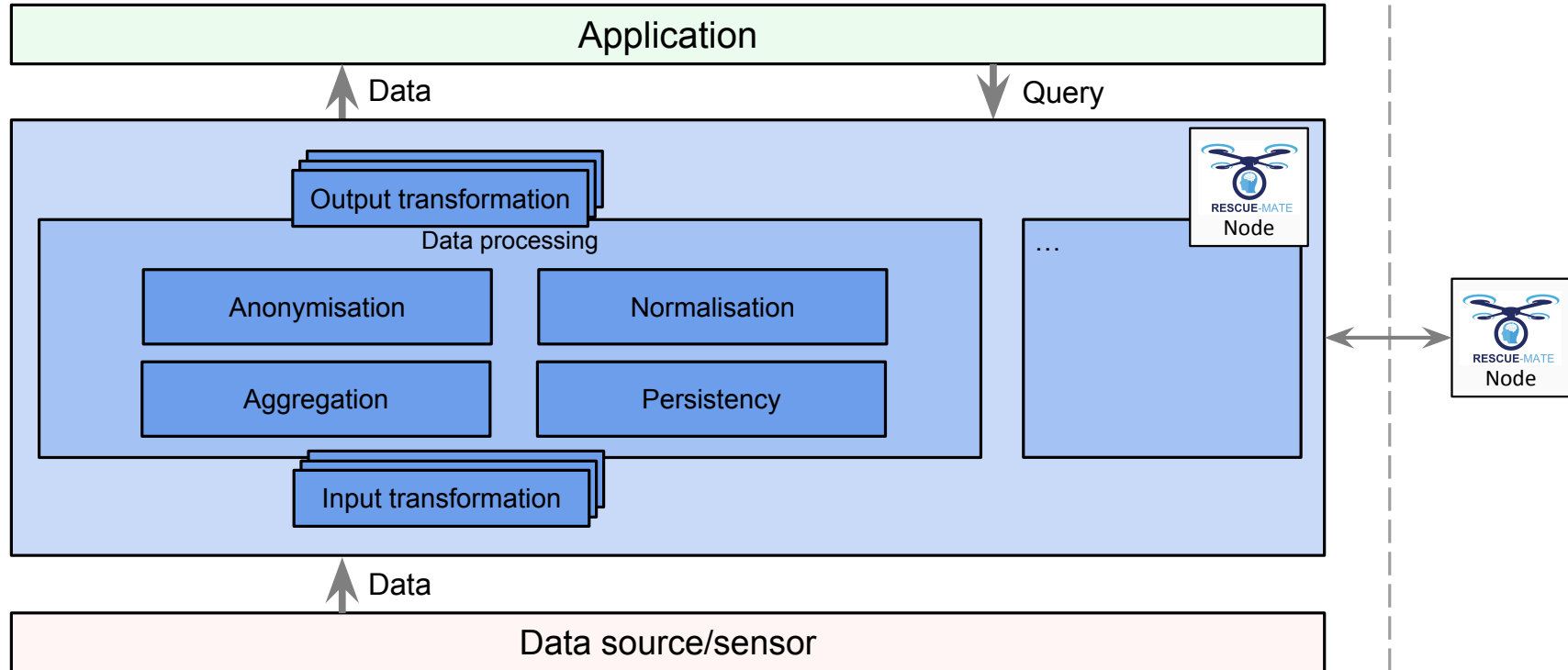
Goal

- Create timely overview of the situation
- Automatisisation
- Augmentation
- Fusion

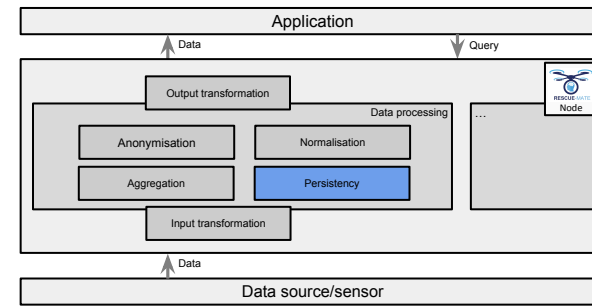




Data Platform



Data Platform > Persistency



Virtuoso Open Source Edition

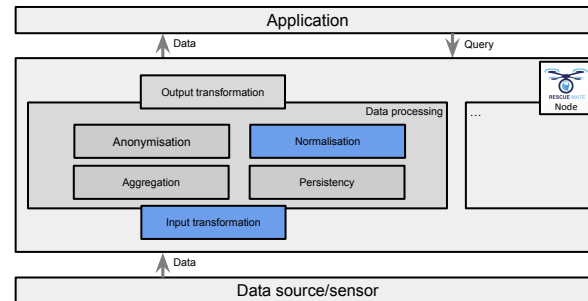


Weaviate Vector DB



File storage

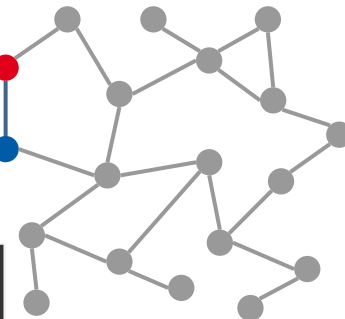
Data Platform > Transformation and Normalisation



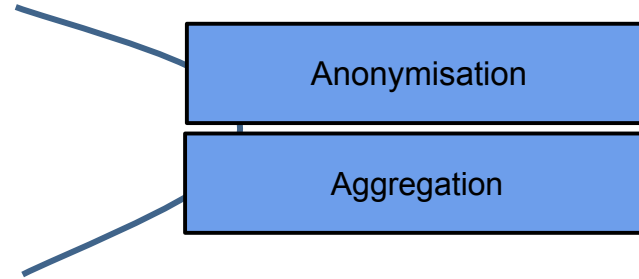
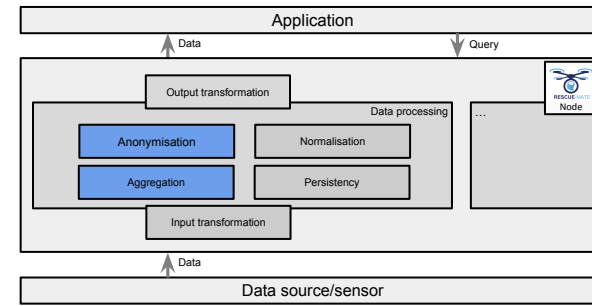
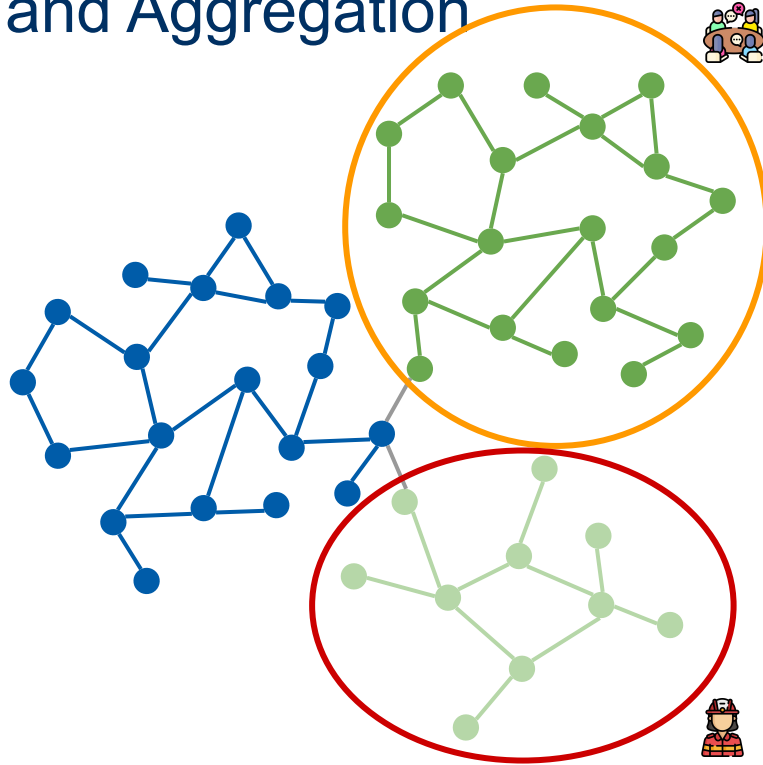
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    rr:language "de"
  ]
];
...
```



Data Platform > Anonymisation and Aggregation



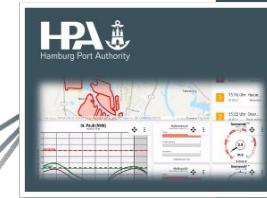
Example Sensor and Application

Social Media Sensor

- Knowledge extraction from social media posts in German
- Automatic categorization
- Deduplication



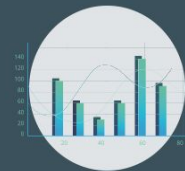
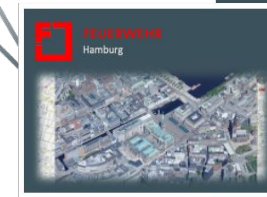
DATA FUSION &
AI MODELS



AUGMENTED REALITY



VIRTUAL REALITY



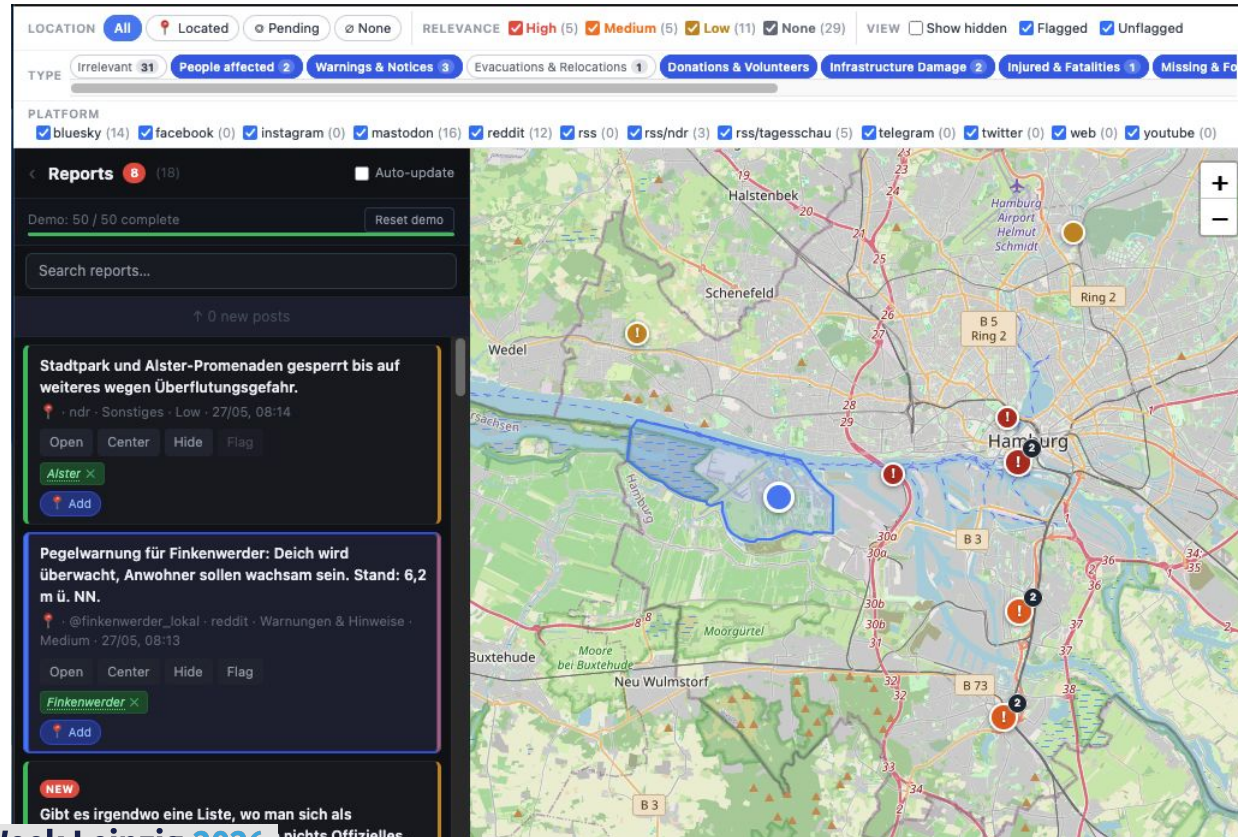
SIMULATIONS

DECISION SUPPORT

Example Sensor and Application

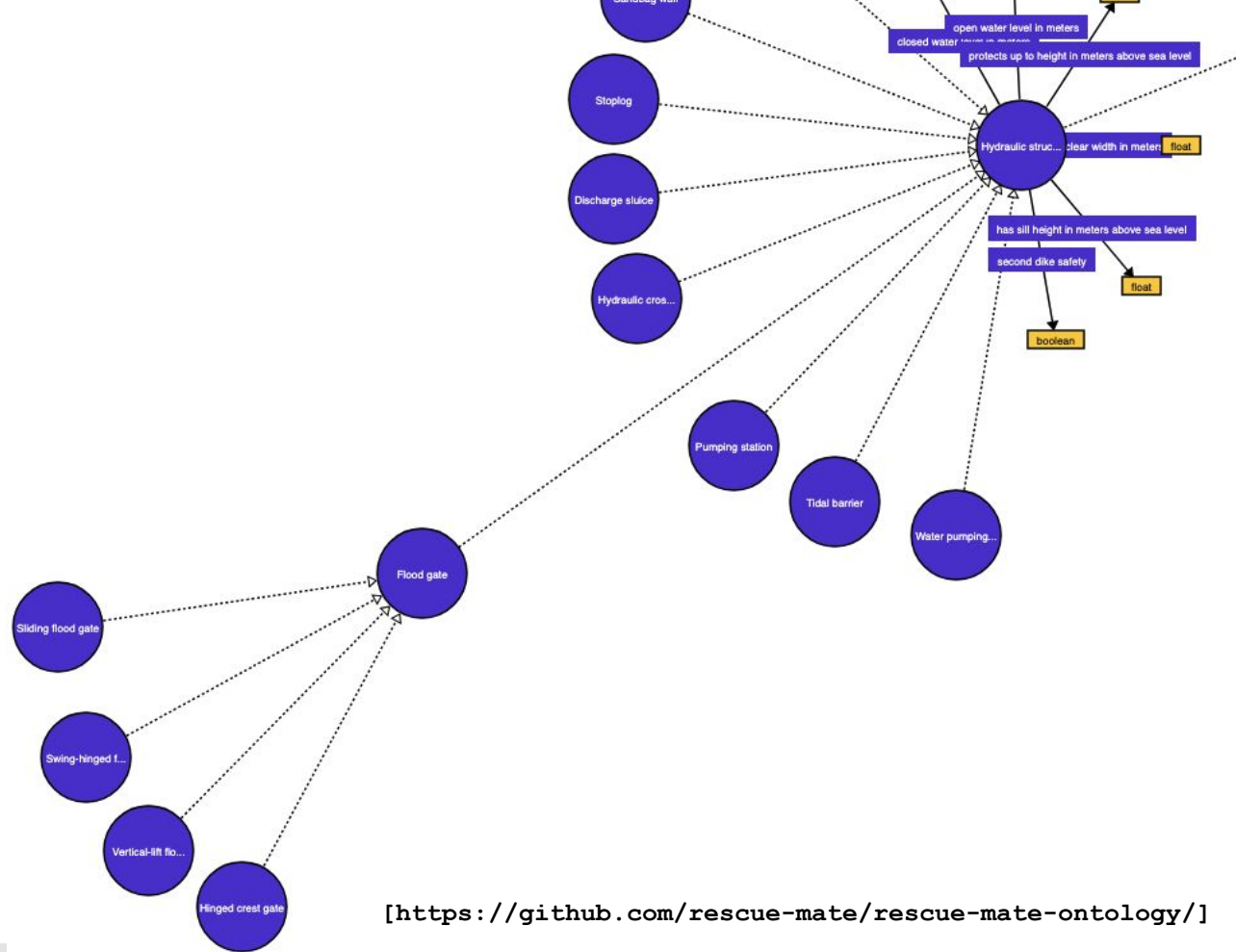


Social
Media
Map Frontend



Ontology

- Aligned with BFO
- ~ 400 concepts
- Nine modules:
 - main
 - care_facilities
 - events
 - fixed_construction
 - functions
 - hamburg_organizations
 - operational_resources
 - social_media
 - traffic



[<https://github.com/rescue-mate/rescue-mate-ontology/>]

Thank you!



Mediaserver Hamburg / Andreas Vallbracht

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www.rescue-mate.de



Hamburg