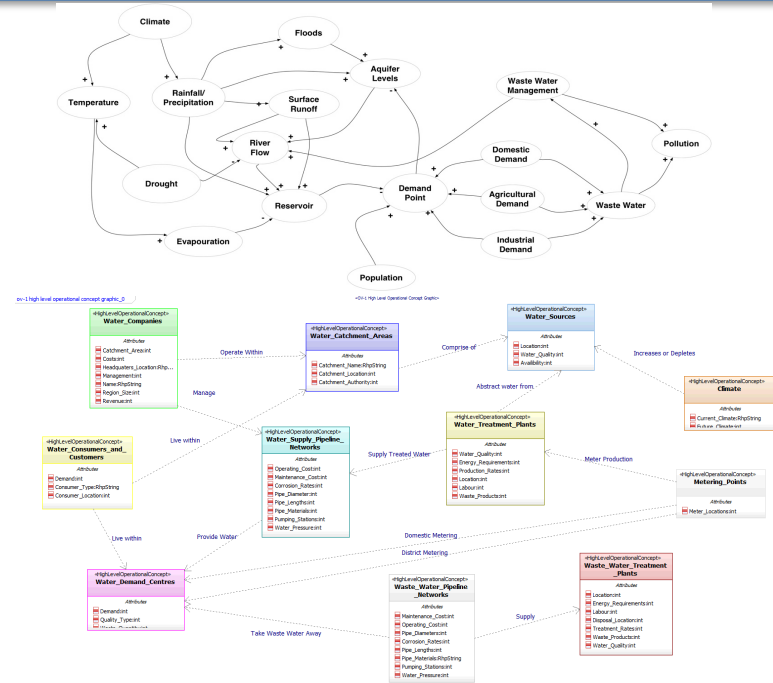


# Water Supply Resilience – An Architectural Perspective (BRIM Feasibility Study)

**Problem Statement:** The variability in the UK’s weather and climate, and the occurrence of extreme weather events (e.g. droughts and floods) presents long-term challenges in meeting water demands. There is an apparent need to develop a resilience water supply meet all demands from both social demand and environmental aspects.

## Aims and Objectives:

1. Conduct hackathon/workshop bringing a range of stakeholders academic and industry) together to address the challenges and the complexities associated to water resource management in the UK.
2. Development of a reference SoS architecture to design/architect resilience into future evolutions of the UK water supply network.
3. Evaluate future scenarios of water sharing across catchment areas and suggest future resource implementation strategies through architecture exploration.
4. Analyse the resilience of the current water resource management system and propose architectural improvements to cope with extreme weather scenarios.



## Project Details:

- To create a reference architecture of the existing water supply network (SoS) in the UK, using systems modelling languages (SysML) and Architectural Frameworks.
- Define what is meant by resilience in the context of water supply.
- To highlight where the main challenges – from an architectural perspective – of the water supply network with respect to overall resilience.
- To identify non-functional attributes which could potentially (if designed into early phases of development lifecycle) increase level of overall resilience (e.g. availability, robustness, flexibility).
- Apply novel resilience viewpoint in SysML/UPDM to demonstrate its analytical capability

**Funding Body:** EPSRC (BRIM Project) £19,000  
**Collaboration:** TBD

## Anticipated Impact:

- Alignment of academia and industry understanding on resilience issues of UK water supply and resource management systems.
- Creation of reference architecture of UK water supply SoS.
- Architectural suggestion's to improve resilience of UK water supply.
- Method for implementing non-functional “qualities” into early development and conceptual design

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