

DAMAST

Technologies for the Safe and Efficient Operation of Water Reservoirs



Key Facts



Funding Agency

German Federal Ministry of Education and Research (BMBF)



Project Call

03G0882A-C



Duration

05/2019 - 04/2022



Coordinator

Karlsruher Institut für Technologie – Institut für angewandte Geowissenschaften



Partners

- Piewak & Partner GmbH, Ingenieurbüro für Hydrogeologie und Umweltschutz
- Geophysical Institute of Tbilisi State University
- European Centre on geodynamical Hazards of High Dams
- Georgian Geophysical Association
- GEORISK, Yerevan



Website

<https://www.bmbf-client.de/en/projects/damast>

Part of the "CLIENT II - International Partnership for Sustainable Innovations" funding programme of the Federal Ministry of Education and Research (BMBF) within the framework programme "Research for Sustainable Development (FONA³)"

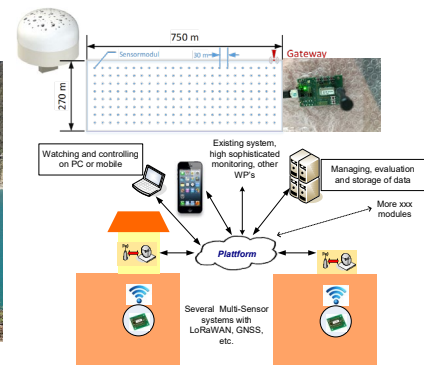
Project Objectives

New dams are being built worldwide as part of the creation of a climate-friendly energy supply. In many places, natural or induced earthquakes, especially in combination with other extreme events such as heavy precipitation or landslides, are jeopardising the safety of dams and thus local populations. In the DAMAST project, German, Georgian and Armenian partners are examining the underlying processes as well as safety-relevant parameters of water reservoirs.

The project will develop transferable monitoring and risk concepts for dams especially in tectonically active regions.



The 277 m high arch dam of the Enguri Dam in Georgia. © KIT-ACW



192 individual sensor, a sensor network in distance 30 a large area can be monitored (one gateway 254 sensor can be connected).
Below: Basic concept

EIFER's Contribution

EIFER is accompanying the existing monitoring system with an innovative cost effective weatherproof mobile multi-sensor network. The modular sensor concept allows to measure,

- The physical quantities acceleration, rate of rotation and magnetic field
- The global position through with GNSS sensors (Global Navigation Satellite System Sensor)
- easy-to-measure environmental parameters (temperature, humidity, air pressure, CO₂, noise, radiation, etc.)

The recorded data should enable correlations with other external influences (weather, seismic events).

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