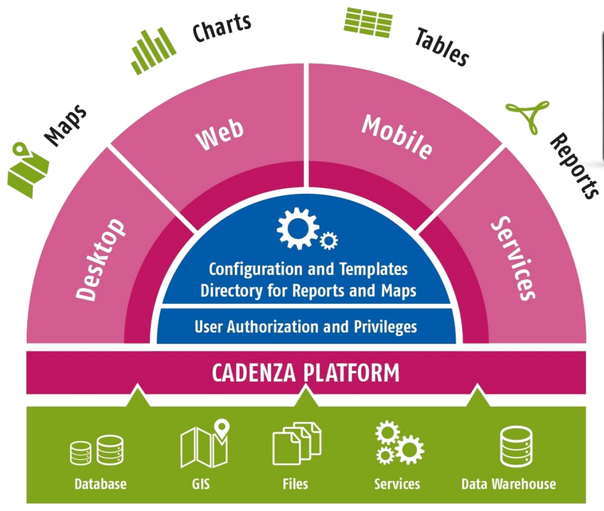
Modern Information and Communication Technologies for Smart Water Management

Disy Informationssysteme GmbH, Karlsruhe

Andreas Abecker, Jonas Gottwalt, Lucia Hahne, Friederike Lott, David Riepl, Vanessa Rojas

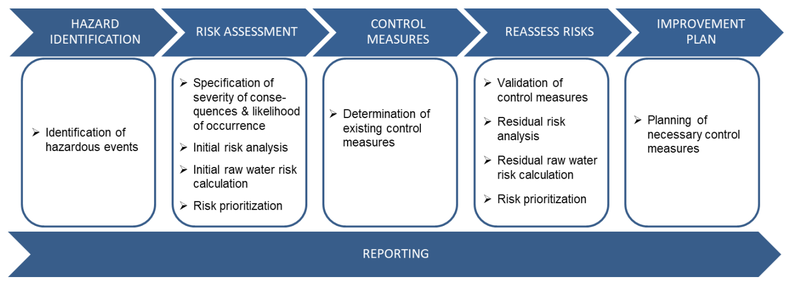
About Disy

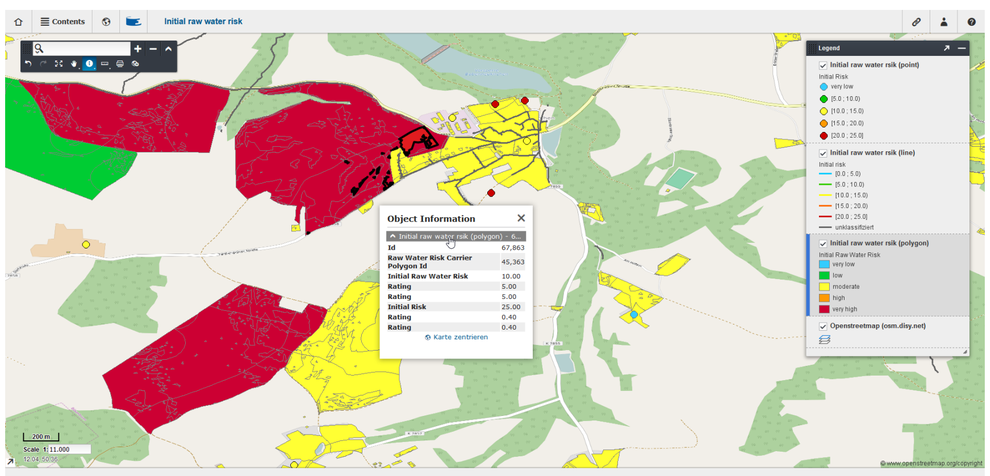
- Offers **software** solutions and services
- Founded 1997, ca. 100 employees
- Specialized in spatial data infrastructures (SDI), **geo data management (GIS)** and **spatial data analytics**
- Customers are mainly large **public administrations**
- **Application areas** comprise water (drinking water, EU water framework directive, flood protection, coastal protection, groundwater monitoring, …), air quality, noise protection, nature conservation, forestry, agriculture, waste mgt, …
- Water **research projects** in Vietnam, South-Africa, Spain, Greece, UK and Germany



Disy in GRoW project TRUST

- Close collaboration with **Technologiezentrum Wasser (TZW)**, Karlsruhe
- Provide software-tool support for the WHO's **Water Safety Plan** (WSP) framework for risk assessment wrt. drinking-water supply
- Focus on **risk assessment** for the **catchment area**





Related work @ Disy

(selection of ongoing and past projects)

- EU FP7 project **WatERP** (2012-15) on *inter-operability* of water management software tools
- BMBF SME-project **WIRE** (2017/18) about integration and quality assessment of *geodata*
- BMVI mFund-project **GeoWAM** (2018-21) on remote sensing for coastal waters with *Interferometric Synthetic Aperture Radar*
- EU H2020 innovation action **NAIADES** (2019-22) about *artificial intelligence* for utility companies
- BMBF project(s) **ViWaT** (2018-21) realizing *complex data analytics* for IWRM planning
- Commercial projects for **TZW** (groundwater DB nitrate), **BAW** (marine data infrastructure Germany), Federal State of **Bavaria** (water data warehouse), Federal State of **Niedersachsen** (water management DB), Federal State of **Schleswig-Holstein** (flood protection), …
- …

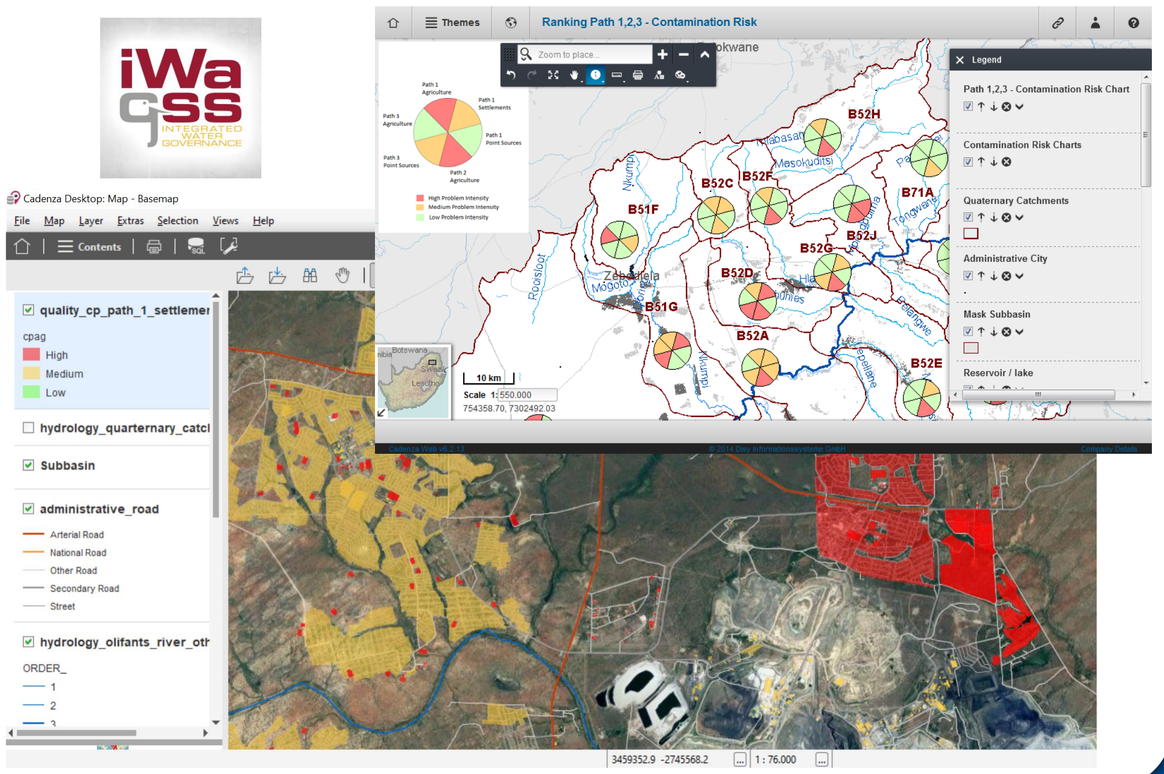
Research topics

(current & potential future aspects)

- Mobile GIS for offline / outdoor acquisition and usage of geodata
- User-friendly interfaces for complex data analysis tasks in water management
- Standardization for storage and exchange of IWRM research, planning and operations data
- Water, energy, land, food nexus
- Prognoses and integrated planning for climate-change adaptation
- Big data / smart data technologies for IWRM
- Augmented reality for water research & management
- Real-time monitoring and operations of drinking-water supply
- Predictive maintenance for water infrastructures
- Cyber-physical water systems (CPWS)
- …

Disy in GRoW project iWaGSS

- Close collaboration with **Ruhr-Universität Bochum**
- **Data integration**
- Creation of **planning maps**
- **Real-time early warning system** for water-quality problems



Research topics

(current & potential future aspects)

- Mobile GIS for offline / outdoor acquisition and usage of geodata
- User-friendly interfaces for complex data analysis tasks in water management
- Standardization for storage and exchange of IWRM research, planning and operations data
- Water, energy, land, food nexus
- Prognoses and integrated planning for climate-change adaptation
- Big data / smart data technologies for IWRM
- Augmented reality for water research & management
- Real-time monitoring and operations of drinking-water supply
- Predictive maintenance for water infrastructures
- Cyber-physical water systems (CPWS)
- …

Disy Informationssysteme GmbH, Karlsruhe
http://www.disy.net
Contact: Dr. Andreas Abecker – andreas.abecker@disy.net

SPONSORED BY THE
Federal Ministry of Education and Research