

Supporting disaster management through developing free GIS components and services for spatial data infrastructures (SDI) based on open standards of the Open Geospatial Consortium (OGC)

<http://www.ok-gis.de>



Disaster management and Geographical information Services (GIS)?

Disasters are intrinsic spatial phenomena. Therefore disaster management needs access to different sources of spatial data and geographical information services. These are the core of any disaster management system. As disasters cross administrative boundaries open systems are needed that can integrate different types of data and GI services.

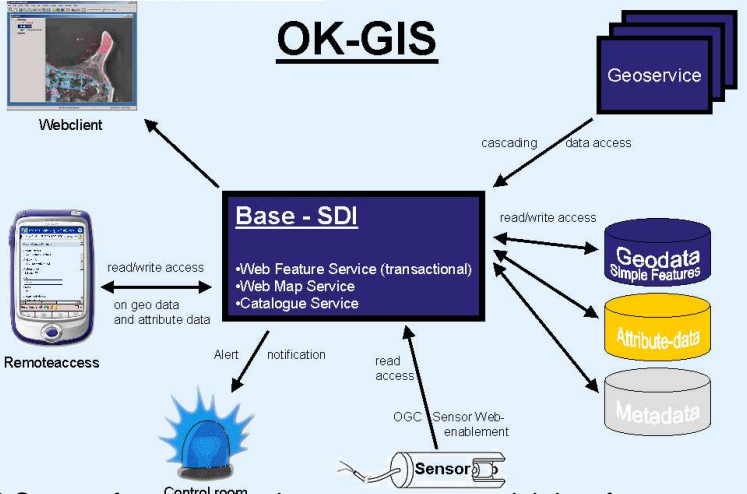
In order to deliver fast and efficient help in case of emergencies, both rescue workers and control room staff need easy access to up to date, detailed and reliable information from different sources. The speedy availability of spatial and logistical information like maps, plans, rescue routes, measurements or remote sensing images can save lives.



Open Spatial Data Infrastructures (SDI) with free GIS components based on open standards represent a major fundament for modern and effective disaster management

The OK-GIS Spatial Data Infrastructure

- Open Source GIS-Components
- Open Standards of OGC, ISO, W3C
- Generic Architecture that can be applied to several scenarios and disaster types
- Web Service based Architecture with several sub-systems



Elements of the OK-GIS architecture:

- **Base SDI (spatial data infrastructure)** free Web-GIS Servers for accessing heterogeneous spatial data from different sources.
- **Workflow management** for orchestrating configurable service chains between the individual services
- **Alert & Notification Services** alarm relevant people & services in case of emergency or when thresholds are reached
- **Sensor Web** supporting a range of sensors according to the OGC sensor web enablement initiative
- **Web-based portals and clients for specific tasks** configurable applications for specialised needs
- **Decision Support** analysis and decision algorithms for the control room staff
- **Communication support** between control room staff and mobile field workers
- **Mobile Visualisation and mobile spatial data collection** on mobile GIS-Clients (PDA, Tablet PC) using SVG
- Support for **tour planning** and **evacuations**