OpenNIS™

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OpenNIS

Water: GIS-based Water Distribution Network Management

Powerful cost-effective GIS solution for Water networks

A water distribution network design involves optimal design of network components and all the raw data needed for analysis and design. GIS can be used as an integrated tool in processing of spatial data for the overall design and asset management of intermittent water distribution systems. The application of GIS technologies for the effective design and management of Intermittent Water Distribution Systems is the need of the hour and utilities and governments in developing countries should begin to tap-in the benefits offered by the use of GIS in this regard. This is particularly true for big developing countries like India and China where the huge rate of population increase coupled with severe water shortage has forced engineers to rethink effective ways for managing water utilities and GIS application holds the key to an integrated approach to help solve this problem.

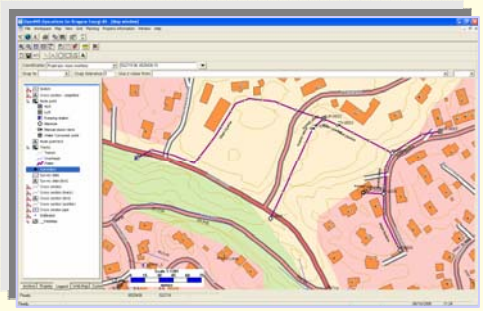
OpenNIS Water is a robust and scalable GIS_based Water distribution network management application focusing on the water pipeline industry's need to have detailed pipe segment information in a structured database accessible by user-friendly tools.

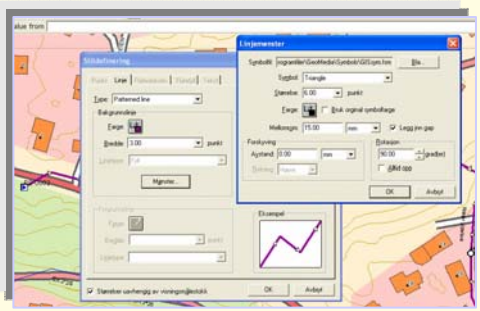
OpenNIS Water provides users with an accurate system map of individual pipe sections, relates all relevant data to these pipe sections, and allows to access this asset database for risk analysis, cost analysis, work order management, report production and database querying. The *OpenNIS Water* GIS-database holds pipeline attribute data and geographic location information. The pipeline database provides an accurate representation of each pipe section, from bell to spigot, and contains all the attribute information for that section. This provides the necessary granularity for capital planning, historical data tracking, defect tracking and hydraulic analysis. From this centralized dataset, multiple users can view, analyze and update data, and create reports without duplicating datasets or searching facility-wide for information.

OpenNIS Water can also display web based maps of the network, with which the engineers in the different field offices can by cost-effective means be able to access network information. Once all the network information is stored in a GIS it makes the use of querying possible with ease and helps the planners in better understanding of the system and is able to act in a effective manner to any contingencies that may arise. Use of GIS data though Web based interfaces offers staff in a distributed environment manage the assets in a cost-effective manner. *OpenNIS Water* also supports height information (z-values) when calculating trench length.

Features:

- Risk Analysis
- Cost Analysis
- Trend Analysis
- Report Production
- Pipe Section Locates





Benefits:

The *OpenNIS Water* GIS solution gives pipeline owners:

- Increased detail of representation of pipeline assets, pipe segments including integration opportunities with work management software and Environmental Monitoring programs
- Provides increased granularity for planning capital programs; Target specific pipes for replacement instead of whole waterlines
- Historical pipe data maintained for perpetuity in database
- Defects are uniquely tracked over several inspections. This provides defect trend analysis and projecting future defect values
- Maintains ability to export for hydraulic analysis and present hydraulic analysis results in the GIS for calibration
- This data model delivers a high value data set that is very accurate at representing existing water infrastructure