HydronetMaestro

Strategic Management for Water Networks

What is HydronetMaestro ?

HydronetMaestro is a ready-to-use software environment that simplifies the management of water and wastewater infrastructure. HydronetMaestro is GIS-based, so all data are digitally integrated for easier monitoring: subscriber information, network status, and network inventory.

For each subscriber in the customer information system, a location in the real world is known. This knowledge effectively guides procedures such as meter installation/removal and network maintenance, and defines exactly which subscribers are affected. Also, water consumption and projected need can be calculated and reported by location.

SUBSCRIBER INTEGRATION

Subscriber Geocoding is made in 3 steps:

1. National address database information is taken as a standard, and subscriber addresses are converted to a single standard format, with corrections made in old names for streets, neighborhoods, regions, etc.
2. Standardized subscriber addresses are matched with Mapbis base map data (street center line, neighborhood, building, building entrance) and coordinates are defined for each subscriber.
3. Mapped subscriber addresses are compared to the national address database. For example, the number of residences in each apartment building is compared to the number of subscribers recorded for that building, and any mismatches are noted.

NETWORK INTEGRATION

Network digitization is made in 3 steps

1. First, it is necessary to learn how much of the network data is on paper maps vs. in digital form, where the data are stored, with what hierarchy they should be digitized, and which map layers are necessary.
2. Paper maps are scanned and digitized.
3. Network data are mapped onto GIS coordinates.

www.mapbis.com
www.basarsoft.com.tr

info@mapbis.com

facebook.com/mapbis

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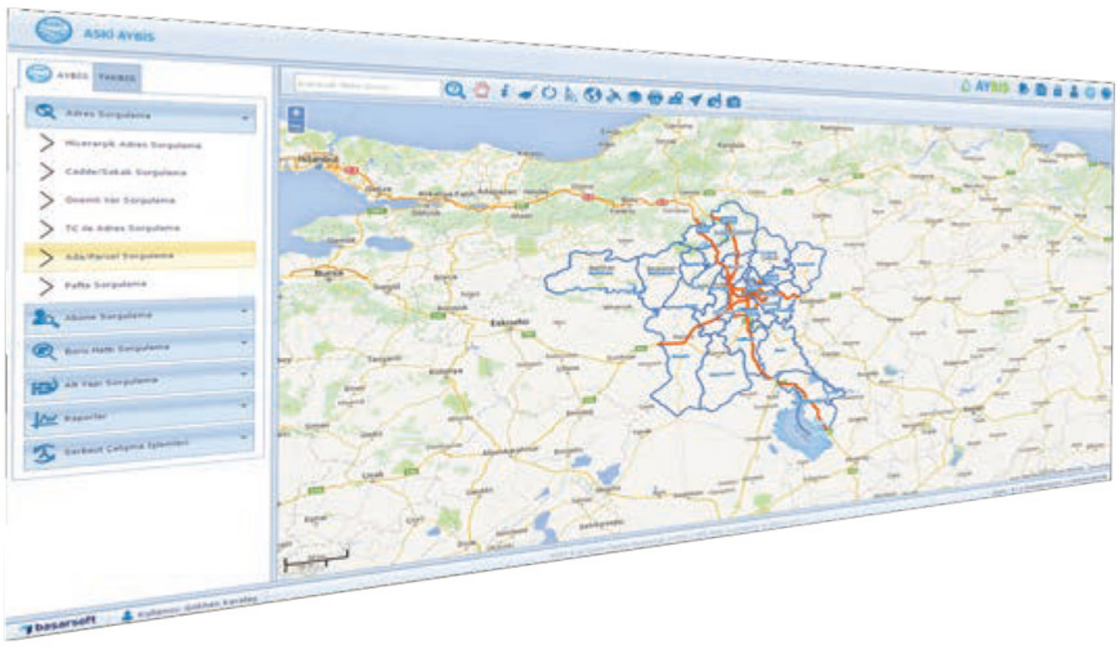
SYSTEM ARCHITECTURE

HydronetMaestro works on a live database, and therefore has a multiuser structure. By integrating other information systems, HydronetMaestro can display and analyze live, up-to-date data on a precise geography.

All subscriber addresses in the system are in the database, so the creation and updating of addresses can be handled in the GIS desktop address application.

Queries on subscriber addresses and network data, as well as analyses and reports, can be made with the GIS web application.



Geographic Base Map

HydronetMaestro is founded on a geographic base map. This base map is created by the map layers provided by Mapbis. With this geographic data set, all locational analyses can be performed, and multiple criteria regional analyses can be made at the neighborhood, county or provincial level.

It must be remembered that a GIS system's most basic requirement is an accurate geographic dataset. On this foundation it is possible to make the most sensitive and accurate analyses of customer and network data, with the use of supporting applications and interfaces.

HydronetMaestro GIS WEB INTERFACE

The HydronetMaestro GIS Web Interface requires no installation on the computers that will be used. The HydronetMestro Web Interface provides for more effective use of the HydronetMaestro system by providing a standardized central database and integration of subscriber information. HydronetMaestro Web can be used via internet or intranet.

CONCLUSION

HydronetMaestro, as a GIS-based integrator, works on a live database and enables the use of the most up-to-date data.

HydronetMaestro provides the geographic data necessary for the systems being integrated (subscribers, network components), thus preventing mismatches between the systems. HydronetMaestro takes these integrated data, analyzes them, and generates detailed reports. HydronetMaestro therefore serves as an organizing principle, both for daily operations and for strategic growth.

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