Web-GIS & Spatial Information System for Oil & Gas Trunk Line Management: A Distributed and Real-time System and Monitoring

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SUMMARY

Internet has become a competent technology for data communication due to distributing technology of the web servers. The data and maps reach to the thin clients with the minimum system requirements at user end and with the click of a button. Such technology has not only popularised the whole world but has moved scientific body to one step up. Geoscientist & Engineers, who use map and related information traditionally to plan and manage, have found Internet technology of much use since it reduces the cost of data management and information distribution to mass usages.

With the advent of GIS and Internet technologies, the conventional method to get solutions in time and position have been improved. Users can combine data and information accessed over the Intranet or Internet with the local data for display, query and analysis. In this paper, a typical example of use of GIS and Internet technology for Trunk Line of PERTAMINA (Indonesian State Own Oil & Gas Company) DOH Sumbagsel (South Sumatera Upper Operation). has been illustrated with a typical case study where the Trunk Line management and information system is implemented for use. There are two segment developed Web-GIS solutions namely Privates and Public, have been used for automating the periodical operations of PERTAMINA DOH Sumbagsel (PERTAMINA South Sumatera Upper Operation). The functioning of all the departments of this corporation integrate into a single system using above two solution.

As of now in Pertamina, very few GIS organisations are proud to have implemented such system for Trunk Line Management that addresses holistic approaches to solve bunch of Trunk Line issues based on a client - server architecture. All the three basic modules under this system, Data Entry, Small Format Aerial Photograph (SFAP) Image, Reporting, GIS - based Query, can be accessed from the remote client machines located in corporations' ward offices using a browser. The only perquisites being that the terminal nodes (Department/Branch Offices) are connected to the server (Head Office) via Internet or Intranet.

Data Entry screens are used for entering data related to the various entities related to functional requirements of all the departments. Reports (maintenance) are generated periodically for each department using the report generation facility provided within the system. These reports provide department-wise consolidated information regarding a particular entity for a given period. GIS based query is the most important module of this

system since the visualisation of Spatial & atribute data, SFAP Image, and maps are the main criteria for planning and decision-making. All in all the system helps to maintain, manage, plan and analyse geographically referenced data on existing condition (oil & gas supply, pipe condition, land use arround trunk line) and development planning (trunk line reinstalalation, new path o trunk line).

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