



## **WATER NETWORK MANAGEMENT FOR GDYNIA**

After 1990, transformations in the Polish economy triggered the restructuring of many Polish companies into organizations able to face market challenges and also meet strict environmental regulations. BMT has been closely involved in assisting a number of such major organizations in the change process. These organizations are adopting new geo-information systems to manage large infrastructure developments and to ensure environmental integrity of human impact processes.

In 1992, BMT established a joint venture with the Polish Academy of Sciences' Institute of Hydro-engineering in Gdansk. That company is now a wholly owned subsidiary of BMT and has established itself as a high-end provider of GIS based solutions for municipal and industry sectors addressing maritime, coastal and environment.

### **1. Spatial Information Management in the Triple-City**

Gdansk, Gdynia and Sopot are regionally called the "Triple-City" and consist of an agglomeration of about 800 000 inhabitants. In the early 90's, the municipalities started to develop digital databases for maintaining property ownership information. In 1995 a unified strategy was adopted to develop common digital base mapping across all three municipalities. BMT was a key author of the strategy and was engaged to develop a range of generic tools to support geo-information system implementation and information control and management. The BMT software gained a Bentley Systems Annual Award in 2000.



**Figure 1** Gdynia city port looking towards the North West





## 2 Water Supply Management

In Gdynia, the water and sewage public agency was restructured to become a private limited liability company, owned by the municipality<sup>1</sup>. The Water & Sewage Company PWiK services 400 000 inhabitants. In 2001 the board of PWiK decided to implement a geo-information system handling all operations of the water supply network (945 km long) as well as operations connected with municipal wastewater management (630 km long). This includes mapping, network analysis, and administrative functions such as maintenance and record keeping.

BMT was chosen as contractor. The system consists of an Oracle database hub and GIS branch applications of Bentley Systems customized by BMT for the Polish conditions.

A dedicated GIS team was established in PWiK and trained by BMT. A pilot project for one district was carried out that will form the basis of further development of the system.

One of the key issues is to ensure effective exchange of data and information between the city municipality (survey department) and the water company PWiK. For historical reasons

discrepancies exist between different data resource information that have to be identified and amended. This is no trivial task when dealing with municipality scale data and required development of special QC software for remote application to Oracle warehouse data. The BMT geo-information system tools developed also enable direct interchange of spatial data on water and sewage network between base maps used by city of Gdynia and that ones used by PWiK Water Company.

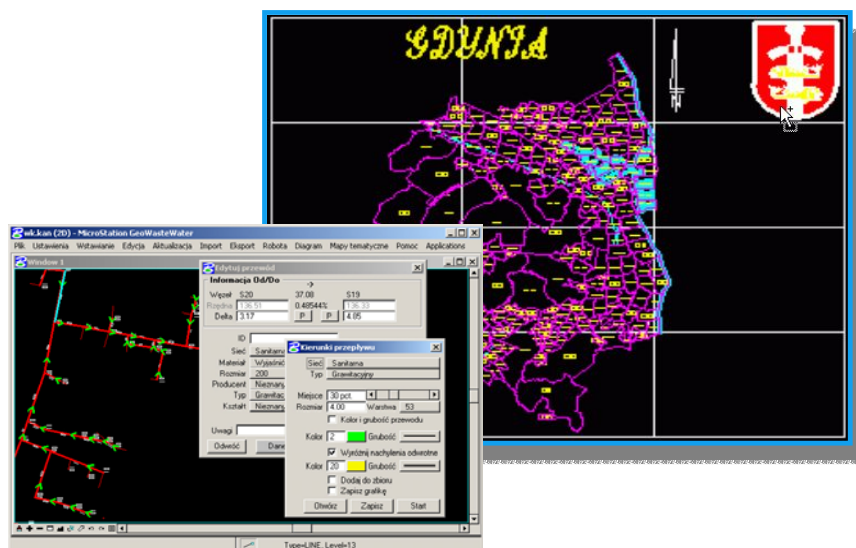


Figure 2 GIS system screen dump to illustrate city water network application.

<sup>1</sup> A similar utility company in Gdansk was sold to a foreign investor.

