Urban water infrastructure asset management -a structured approach in four Portuguese water utilities

M. A. Cardoso*, M. Santos Silva*, S. T. Coelho*, M. C. Almeida*, D. Covas**
* Laboratório Nacional de Engenharia Civil, Av. do Brasil 101, Portugal
** Instituto Superior Técnico, Av. Rovisco Pais, Portugal

Abstract

Water services are a strategic sector of large social and economic relevance. Thus, it is essential that they are managed rationally and efficiently. Advanced water supply and wastewater infrastructure asset management is key in achieving adequate levels of service in the future, particularly with regard to reliable and high quality drinking water supply, prevention of urban flooding, efficient use of natural resources and prevention of pollution.

This paper presents an appraisal of the implementation in four Portuguese water utilities of a methodology for supporting the development of urban water infrastructure asset management (IAM), developed during the AWARE-P project. Both water supply systems and wastewater systems were considered. Due to the different characteristics of the operators, the main concerns vary from case to case; some problems are related essentially to performance, others to risk. Cost is a deciding factor that is common to all utilities.

The paper describes the applied procedure focusing on the existing differences, drivers, constraints, major benefits and outcomes. It also points out the main challenges and the results obtained by the implementation of a structured procedure for supporting urban water IAM.

Keywords: asset management, urban water infrastructure, rehabilitation plan