

## Infrastructure management and maintenance for urban environment quality and sustainability. Olympic assets

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## Summary

The planning and management of infrastructure assets (both if carried out according to the city development and if planned for important culture and sport events) - being them crucial to guarantee use and management modalities capable of avoiding those territorial, financial and environmental wastes which characterized the past – has to be optimized according to functional, management and maintenance needs. The definition of maintenance-oriented planning modalities as well as of methods and tools for infrastructure management and control enables to carry out a development within technologies and processes which better answer to instances of quality and sustainability as well as to a more careful attention towards the time dimension.

**Keywords:** Sustainability, quality, maintenance culture, infrastructure maintenance, planning.

## 1. Introduction

The planning and management of infrastructure assets has to be optimized according to functional, management and maintenance needs. Such a necessity is becoming more and more urgent because of the following reasons: the progressive decrease of the Public Administration financial availability concurrently at important increases at level of properties, the major attention users pay to the quantity/ quality of erogated services, their interest in public health and safety involving a renewed attention to themes such as air and water quality, green spaces, traffic and noise decrease, progressive ageing of people resulting in a more difficult city practicability and access to services, the obsolescence of many infrastructures built during the urban growth, the increase in the social and economic costs to manage and maintain environmental resources; all these are signals that call for reflecting upon the implementation modes of urban system and services.

In order to reach building, management and control modalities – characterized by a renewed interest in the natural world, in the infrastructure asset – an intense research activity has been initiated: aiming at giving a useful contribution to a sustainability-oriented development, such a research has started from the redefinition of maintenance culture as a disciplinary study context shared by the industrial and building sectors, and it has implemented important results within the knowledge, management and maintenance systems. The theme of the sustainability and quality of the results of built environment transformation actions represents an important chance to reflect and reformulate the technological research.

Technology has always represented a fundamental instrument among human societies, it is actually the reference parameter to study their evolution; in the last decades, technology has been assuming a new and crucial role: from being an element of progressive and potentially irreversible unbalance between man and nature, and between man and the results of his own activity, it has been progressively converted into a re-balancing factor, asking for a continued critical examination of technologies in all their applications in order to control the phenomena derived from their use.

If nowadays – and more and more in the future - technology represents the set of rules and practices