

# URBAN MAINTENANCE

## State of the art, scenarios of innovation, open problems

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### KEY WORDS

Urban Maintenance, innovation, Italian market

### ABSTRACT

This paper describes how in Italy new relationships have been created between Urban Management (UM) and the facilities project, advanced production systems in the building & infrastructure sector, the growing market for technical-management of facilities, the real estate financial market, contract management and, finally, quality culture.

In this context, the paper also represents the premise of the scenario in which to place and later analyse some significant initiatives that have recently been developed in Italy and which can be considered as UM best practice and case studies, especially in the public sector.

The aim is to outline the frame of the innovation processes that are regarded and now are regarding the law, the technical-normative, the cultural-operative field and the market sector of the UM.

### INTRODUCTION

In this direction and with this aim the paper reflects the experience and the know how reached by authors within their activity of study, research, standardization and education carried out since several years in the fields of urban and real estate patrimonies maintenance and Facility Management and developed at the Polytechnic of Milan (Department BEST), the Terotec Association (the Italian "Laboratory for the Innovation of Urban and Real Estate Patrimony Maintenance and Management" promoted by ANCE - National Association of Building Contractors, Condotte Immobiliare spa, Coopservice srl, FISE ASSIOMA - Advanced Managerial Organisation Integrated Service Association, Groma srl, Ingest Facility spa, Insula spa, La Fiorita srl, Manitalidea spa, Manutencoop srl,

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### STATE OF THE ART

Today in Italy, the aims and scopes of maintenance are increasingly concerned with the sub-systems comprising the town-system at underground, ground and above ground levels and which can be classified as follows:

1. underground level:
  - techno-networks (electricity, gas, water, etc.)
  - info-networks (telecommunications)
2. ground level:
  - streets & squares
  - urban furniture
  - green areas & parks
  - lighting & traffic lights
3. aboveground level:
  - single buildings
  - real estate
  - historical monuments
  - infrastructures (railway stations, airports, etc.).

With this holistic view, and from a social and technical perspective, the maintenance takes on new dimensions integrating and enlarging "real estate maintenance" to become "urban maintenance" (UM).

In the light of this meaningful change of scale, coming from the application field "of real estate" and going to the "urban" one, it is thus possible to notice that in Italy today

there is a changeover in the field of maintenance that under some aspects could also be considered "historical".

In fact, there is a new reference context characterized by meaningful and, often, also dynamic scenarios of legislative, technical-normative, cultural-operative and market's innovation.

In the first place, in reference to the market, it is important to point out that "*Cinderella Maintenance*", - as the less sensible people used to consider it during the years '80 to the beginning of the years '90 - does not exist anymore.

In Italy (as however in other EU countries), the maintenance now seems to have become the "*princess*" of the building market, if it is true - as the CRESME estimates (CRESME, *Il mercato delle costruzioni. Lo scenario di medio periodo 2002- 2007*, CRESME, Roma, 2002) - that already during the last two years the maintenance alone absorbed more than the 58 per cent of the global investment of the sector (environs 92 billions of euro on 157,3 billions comprehensive), strengthening a trend started since the first years '90 and representing actually the only sector in constant increase during the last ten years in the building field.

Moreover, the maintenance is being to become "*queen*", if it is true that before the end of 2006, it will arrive to absorb more than the 60 per cent of the global market investment.

Over the last few years the Italian economic boom in maintenance has been accompanied by a process of considerable and marked innovation in the sector, making it distinctive in terms of operative-standard making contexts.

These interfacing phenomena concern the renewed relationship between maintenance and:

- individual facilities projects,
- advanced productive systems in the building sector,
- the expanding market of technical-managing services,
- the real estate financial market,
- technology,
- company management
- quality culture.

It is through this increasingly close interaction/integration with quality culture that UM is absorbing and fuelling this vital element bringing important innovations in terms of evolution/transformation of contents, functions and objectives: the subject of quality in fact takes on the function the leitmotif, permeating and merging with that of UM itself. A new context has come into being, which finally creates the conditions to up-date, valorise, increase and concretely apply the scopes and aims of UM to the field, making it possible to place it in a definitely innovative framework which is suitably related to progress and the demands of society.

This new context is deeply permeated by innovation processes which - as mentioned above - have involved in the legislative and technical-normative area as well as the cultural-operative one, along with that of the market of real estate/urban UM itself.

## **FROM "WORKS" TO "SERVICES"**

The results that have been triggered directly or indirectly by articulated legislation and which are undoubtedly decisive

for the definition of a new advanced reference framework for UM, are hinged on four strategic cornerstones:

- Act 109/1994 (general policy law on public works), with the related regulations concerning its application (DPR 554/1999), which has placed the emphasis on "maintenance" right from the project phase of public works (the fulfilment of the "maintainability requirement" in the project phase as an inalienable condition for the future management of new works) and broadened - by means of the "maintenance plan" - its main function of planning and its strategic role for the purposes of maintenance in time of the quality of works constructed;
- Legislative Decree 157/1995 which, implementing directive 92/50/CEE on public services contracts, founded the basis for an historic and not only juridical evolution from the concept of "maintenance works" (often carried out by means of activities and works determined and controlled only in terms of mere quantity) to the concept of "maintenance services" (to be planned, organised, carried out, verified and compared, instead, in terms of quality standards, performance and results and according to univocal management responsibility);
- the series of acts and legislative decrees, passed during the 1990 to 1994 period, made it compulsory for local authorities to switch from budgets of an "administrative-financial" type to "economic-patrimonial" ones, transforming real estate and urban patrimonies from (most often) being passive "budget items" into "active economic resources" to be maintained, valorised and run with managerial criteria and according to principles of planning, transparency, efficiency and saving, in order to obtain results of an economic type (as an internal instrument of autonomous financial production) as well as a social type (as the main instrument for carrying out institutional ends);
- the laws introduced from 1995 to date concerning "real estate investment trusts" which regulating and boosting innovative forms of investment of the financial market in the real estate sector, on the one hand foreshadowed new and potentially wide scenarios of operation and synergy in the sector, and on the other they indirectly extolled the UM function as the fundamental instrument for the preservation/growth of profitability and quality of the real estate/ urban patrimonies being invested.

Interacting at a parallel level, the simultaneous production and spread of a new set of regulations in the sector has produced an organic system of coordinates of technical and standards reference for UM.

Among the regulations endogenous to the real estate sector, the general policy standard UNI 10604 of 1997, with the support of the new series of standards connected to it, specifically outlined the "Criteria of planning, running and control of real estate maintenance services", giving the first systematic technical-normative classification in the sector and introducing the advanced concept of maintenance as a service extended to "guaranteeing the use of the property, maintaining its patrimonial value and the initial performance

within acceptable limits for its life-span and facilitating the technical and normative adjustment to the initial or new technical services chosen by the clients or required by the law" and to comply with the law and develop according to the "quality system" introduced by the standards of the sector.

## **BETWEEN UM *IN* QUALITY AND UM *OF* QUALITY**

The new legislative and technical normative context has opened the way to a set of conditions/situations that are favourable for UM.

This innovative framework, however, would represent one necessary but insufficient condition for the progress and development of UM if it were not strictly associated with a concomitant process of cultural-operative innovation.

The innovation, in this case, is tangibly taking place through the process of the merging together of and the successive integration and cohesion between the culture/standard procedure of UM and the culture/standard procedure of quality.

Even today, the philosophy of quality gives a new conceptual and behavioural matrix on which to model and direct the contents, functions and aims of UM.

From this viewpoint, the qualitative logic now almost becomes the logic itself of UM and: as such - transfuses its own genetic features into it, bringing significant innovations with regard to "process" and "product".

In terms of "process" UM becomes (tends to become) increasingly more "UM *in* quality" and in this new dimension must now be reinterpreted as "system", "service" and "plan".

Running in quality UM of real estate and urban systems means, therefore, the meeting of explicit and implicit requirements of the users/clients who receive the service through a system, a service, a subtended UM plan in conformity with a quality oriented unitary process of systematisation, realisation, optimisation, control and constant improvement.

This involves the gradual adoption of an organisational-running approach of an increasingly managerial type, to which the UM demand and supply must (and will have to in the future) necessarily abide by in order to develop the demands-requirements-services circuit in terms of quality, following objectives of efficiency, effectiveness and low costs.

In terms of "product", UM becomes (tends to become) more and more "UM *of* quality".

The running of UM of quality of real estate and urban systems means, therefore, passing from a static concept to a dynamic one of quality itself, to be understood as a system that can be planned and updated in terms of performance and functionality standards, to be guaranteed and/or reached during the whole life-span of the real estate and urban systems themselves.

This involves (will involve), gradually, a progressive bonding between the integrated UM process and the integrated processes of planning, project making, and the realisation of real estate and urban systems, within an integrated construction-urban process in which the concept of quality is spread (will be spread) dynamically to the phase of the running and management of the single systems.

## **THE EXISTING PROBLEMS AND DEVELOPMENT SCENARIOS**

If these therefore appear to be the reference coordinates and the innovation and evolution scenarios of UM, it is important to also consider the problems that already exist in the sector and those to be dealt with immediately, so as to try and identify ad hoc strategies and congruent solutions.

There are six strategic points to be included in the debate on the UM sector so as to take the right line on development:

1. the planning and management systems for public work orders;
2. the organisational and structural set-ups for firms supplying UM services;
3. the technical-professional competences for the demand and supply operators;
4. the definition processes for the supply;
5. the correct procedures for contracts;
6. the financial resources to make available.

With regard to the first point, considering the intrinsic complexity of the planning and coordination processes of UM activity, the need can no longer be delayed for a redefinition of the tasks and functions of the "control room" that the public work order sector must recognise once and for all, particularly in the light of evident dysfunctions to be found every day in the irrational and inadequate running of services on urban facilities in our cities.

With this, however, is associated a widespread and obsolete structural and organisational setup of many companies operating in the sector, being most of the time tied down to models already used for the management of public works or single fragmented services, but obviously inadequate for the coordinated running of integrated UM services aimed at real estate and urban systems, which are extremely complex, differentiated and at the same time closely permeated. In counter position, there exists a still limited number of "specialised" national and multinational companies (large and medium size) which operate exclusively in the FM and Global Service areas and which in fact are gaining a leading position in the market sector.

The third problematic aspect can be directly linked to the previous ones and concerns the subject of the systematic planning and diffusion of specially oriented education for the creation of new figures and technical and professional competences that are specifically aimed at the "management" of UM services: the UM demand sector, as well as the supply sector, express the need to adopt new technical-professional figures able to run and regulate the new developments and complexity within the processes of planning, drawing up of projects, organisation, realisation and control of the UM services aimed at real estate and urban systems.

The subject of the appropriate qualification of the structures operating in the field of UM is equally important. With regard to this, the possibility appears to be undoubtedly important, but not decisive, of the public works sector using a specific quality guarantee system starting from the legislation in force and certifiable by specially qualified bodies as an instrument of identification, evaluation,

selection and control in the context of the still heterogeneous and unconsolidated national panorama of operators in the sector (technical-operative services companies, maintenance firms, construction firms undergoing re-conversion/specialisation in the UM sector, etc).

The identification of new and more appropriate procedures for UM contracts and new and more commensurate financial resources to unite with the increasingly poor resources available in public works budgets, undoubtedly constitute the problems needing a more incisive planning capacity and a furthermore a more determined and specific propensity towards experimentation in the field.

As far as this first aspect is concerned. Many projects have begun at a national level for the study, analysis and evaluation of the impact of "Global Service oriented" formulas on the UM market, as well as the first significant local experiences of tenders for Global Service contracts for integrated services in the city.

Within the context which has been outlined, the development of the UM market seems to be more and more characterised by the evolution towards/integration into the market of "integrated services" for real estate and the city.

As direct proof of the evolution of FM from real estate to urban, the fact must be stressed that there already exists an innovative generation Global Service market. This tendency can be seen in the contracts introduced by the Municipality of Bologna for the first "City Global Service", the Municipality of Milan for the running of the entire system of green urban areas and by various other local authorities (the Provinces of Florence and Reggio Calabria, Municipality of Prato, Municipality of Pisa, etc.) for the management and maintenance of the road network.

With regard to the last aspect, the time has come to identify or plan alternative and/or additional solutions to public financing from scratch, also exploring the until now little considered and under evaluated opportunities offered by the so-called "territorial marketing", studying moreover innovative forms of financial involvement on the part of private operators in UM upgrading plans, in which public and private manage to get their respective returns (the first in mainly social terms, the second in economic-financial terms).

## **CONCLUSION**

In conclusion, the right moment has come to start the debate (and the definition and carrying out of experimental initiatives in the field), concerning the hypothesis being put forward on the subject, of innovative projects of "UM financing", so as to stimulate, and if possible to spark off – as happened in "project financing" for public works – special attention to and a correlated drawing up of projects for the study and experimentation of new forms of UM financing for real estate and the city.