

# CHARACTERISATION OF THE PORTUGUESE R & M CONSTRUCTION MARKET: A SPECIAL FOCUS ON HERITAGE BUILDINGS

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## **ABSTRACT**

The rehabilitation of heritage buildings is an important aspect in the safeguard and upgrading of the local environment, and contributes to the diversification of supply in the property market. However, the contribution of the R& M segment to the total construction market in Portugal is almost insignificant when compared to the other countries of the European Union.

This study is part of a wider research project that investigates the different technological aspects of intervention in heritage buildings and their contribution to the development of the local property market.

The data and information used in this study stem from the *Euroconstruct Report*, and from a case study consisting of 57 heritage projects submitted to a government department responsible for the approval and listing of these buildings.

Preliminary results show that the technology used in heritage buildings is similar to that adopted in new buildings, which seems to be inconsistent with a conservation technique that safeguards the built heritage. This study also shows that policy measures to enhance the M& R market have been recently implemented. However, other initiatives are needed, including a clarification of the role of different actors, in order to tackle the constraints and specifics of the R& M market.

**Keywords:** Conservation projects, heritage buildings, Portugal, R&M.

## **1 INTRODUCTION**

The principal risks and threats for urban ensembles, for urban spaces and structures do not generally involve outstanding objects but the loss of density, historic nature, and quality of urban fragments (Suit, 2001 as cited in Kohler and Hassler, 2002). Thus, the preservation and safeguard of existing old buildings and other buildings of cultural value should be considered of a national concern. A conservation technique that restores their materials and components and use the technologies of the time of

construction should be adopted as far as technically feasible. However, the ageing and degradation of some materials and components added to the need to make spatial and functional alterations may imply the use of varying technologies and working practices.

The built heritage sub-segment and the whole R & M construction segment presently a very low share to the total Portuguese construction market. However, this pattern will be changing in the years ahead not only in the refurbishment of old buildings but also in the operations of urban renewal and in civil engineering works. With regard to the reconstruction of old buildings, there is a need to set up policy measures that promote an efficient functioning of this segment, including the role and responsibilities of different agents, particularly regulatory bodies, promoters, contractors and construction professionals.

This study presents the legal framework of the Portuguese built heritage. Secondly, it describes the R & M segment within the context of the construction sector system. A special emphasis is made on the institutional actors that have a very important role on the built heritage sub-segment. Thirdly, the trends and prospect for the R & M market are presented. Fourthly, the existing practices in the R& M market are analysed. Finally, a concluding comment summarises the study and some recommendations are made.

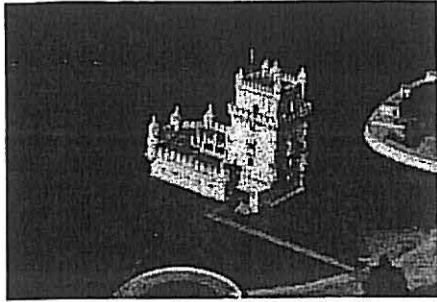
## **2 LEGAL FRAMEWORK OF THE BUILT HERITAGE**

The legislative framework of the Portuguese built heritage is mainly regulated by Decree Law nº 107/2001, as an amendment of the Decree Law 13/85. The legal protection of objects of cultural value increased markedly throughout the last century in line with the international trend in this area. Thus besides the national legislation, there are also international agreements establishing conventions, recommendations and resolutions, which are applied to the country's cultural heritage. Since the last quartet of the XXst century, these conventions have been translated into the Portuguese law.

The cultural value of a building is legally recognized either through its listing as historically important buildings, or through its insertion in a protected area of a listed building. Listing is a legal provision that recognizes the cultural value of a specific object which shall be subject to a special protection and valorisation.

### **2.1 Listed Built Heritage and Protected Areas**

According to the international convention (UNESCO, 1972), the categories of the listed built heritage are the following: monuments; groups of buildings; and sites (Fig.1).



a)



b)



c)

**Figure 1:**  
**a) Monument – Belém tower, Lisbon**  
**b) Groups of buildings – Monuments and buildings Praça do Comércio in Lisbon**  
**c) Sites – Matança Dolmen, Guarda**

Besides these categories, the built heritage is further classified according to its cultural interest or importance: national interest; public interest; and municipal interest. If a listed building in each one of the categories has a national interior interest, it is denominated a national monument (Oliveira and Sousa, 2003)

A listed building is protected around an area extending to 50 metres from its external perimeter, which is designated as a General Protected Area (ZGP). This area may be further extended when the near urban or natural landscape is considered of architectural significance. These areas are called Special Protected Areas (ZEP). Thus, the legal protection concerns not only the listed building but also the other buildings localized in the protected area. The aim is to preserve the image of the nearest environment of the listed building. Other areas which may be subject to a legal protection are: archaeological areas; historical areas; listed streets; and ensembles.

### **3 THE R&M SEGMENT WITH THE CONTEXT OF THE PORTUGUESE CONSTRUCTION SYSTEM**

The institutional actors and the regulatory framework in the R & M construction segment are the same of those of the new construction segment. According to Carassus (2000), the 'construction sector system' consists of segments, which are professions or sectors. In construction, there are three main groups of activities.

The first group of activities concerns the continuous management of the existing stocks of structures and property transactions. Continuous management of structures or facilities is a three-dimensional service: asset management (strategic stock management by decisions to purchase, sell, renovate, demolish, build); property management (major repairs and administration), facilities management (management of services provide to the end-user, operations, day-to-day maintenance). As a means

of simplification, these activities are associated with another kind of service activity: real estate activities- the purchasing and selling of new or existing facilities.

The second group of activities refers to the short-lived design and management and production assembly on itinerant sites. These activities cover on the one hand, service activities involving project management (order, design, co-ordination and control of new construction and major repair operations) and, on the other hand, the implementation of these activities on itinerant sites.

The third group of activities evolves around the industrial production and distribution of materials, components, equipment and plant, which are implemented, assembled and installed by construction firms on sites (Carassus, 2000, pp 7-8).

Fig. 2 illustrates the main functions and regulations, which are taken into account in the construction sector system approach.

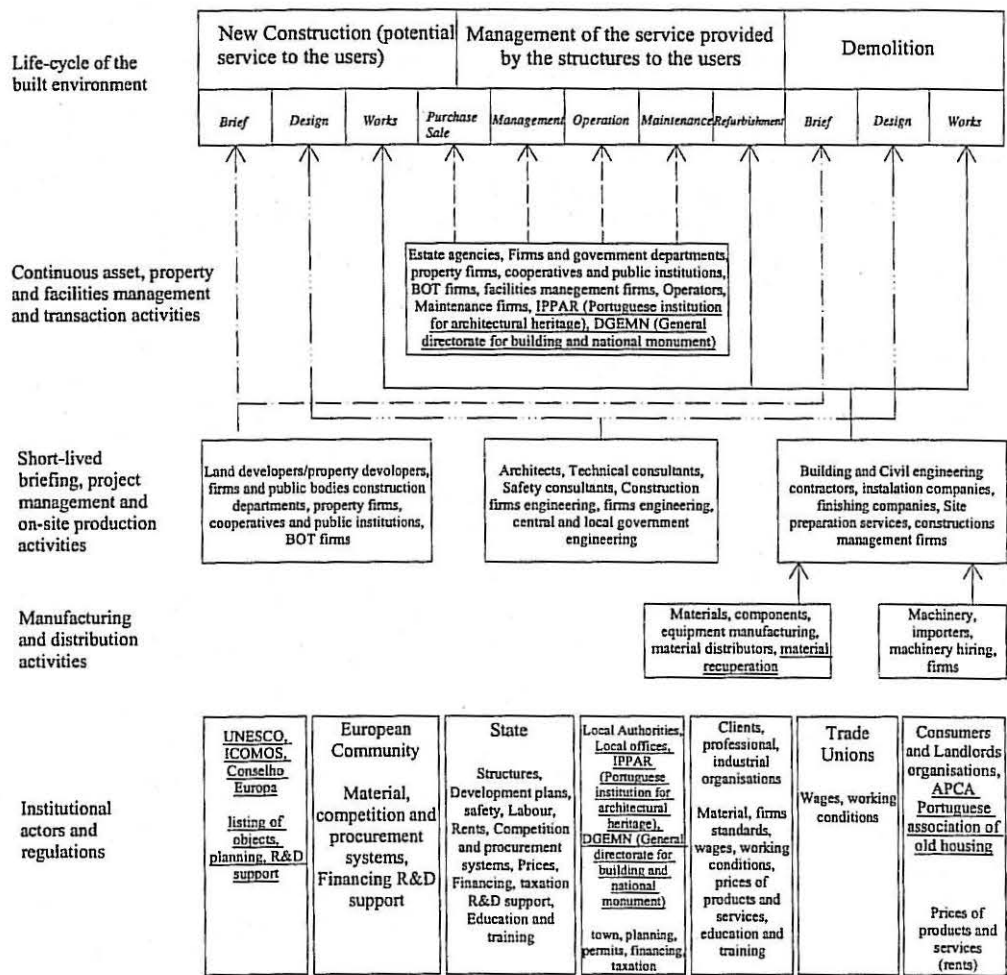


Figure 2: The Portuguese Construction system (underlined – the actors with a special role in the built heritage market)



The approval of interventions in listed buildings and other buildings localised in protected areas follows a process in which the architectural design is submitted for approval in the first phase, and depending upon a positive outcome the engineering designs are subsequently submitted to the responsible entities.

According to the Decree Law 73/73, only architects are qualified to make architectural designs in protected areas and for historical buildings. The public entity responsible for the approval of these architectural designs is the Portuguese Institute for the Architectonic Heritage (IPPAR). For other kinds of architectural designs, these professionals compete either with technical civil engineers or civil engineers. The entities responsible for the approval of the designs are departments of Local Authorities.

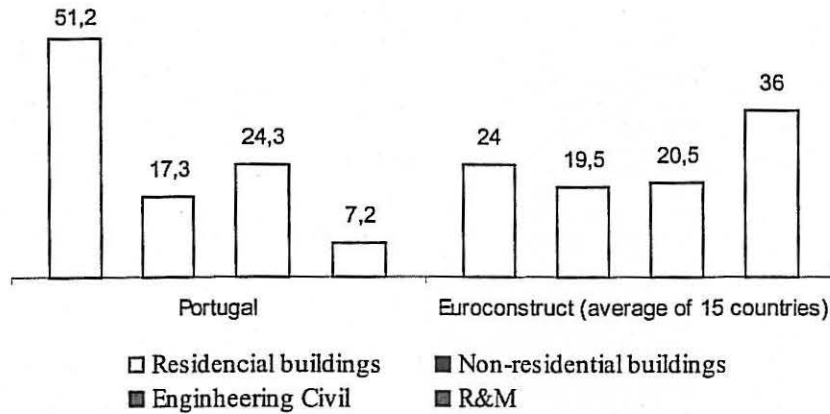
In terms of engineering designs, technical civil engineers and civil engineers are the ones that are entitled to carry out these activities, irrespective of these services concern new buildings or R & M construction works. Local Authorities and public entities are responsible for the approval of engineering designs and building services engineering.

With respect to the execution stage, the construction enterprises are, according to the Decree Law 61/99 (Regime of Entry and Permanence in the Construction Activity) classified as either public work contractors or private work contractors. The actors are the same for both new construction and R & M construction works, although in the case of public projects in protected areas, the construction enterprises are required by law to have a special certification (built heritage category).

The promoters of projects in protected areas are private entities, public entities, religious groups and business enterprises. With regard to the private sector promotion, the decision to enter in this market depends upon economic and financial conditions of the promoter. Financial incentives by the government are related to the type of occupation of the building after reconstruction. For example, in specific historical urban areas, there are financial programmes supported by the government for the restoration of old buildings for the rent marked segment. There is an increasing trend in the demand for buildings localised in protected areas of urban centres for the use in commerce, business services and high-standard quality housing.

#### **4 TRENDS IN THE PORTUGUESE M & R CONSTRUCTION MARKET**

There is no official data on R & M construction works in Portugal. According to AECOPS (2001), which used data from the *Euroconstruct Report*, the share of this market sub-segment averaged 7.2% of the total market output for the period 1998-2000, the lowest value among the Euroconstruct countries (Fig.3). Although the figures from Portugal might be under-reported, they do reflect somewhat the structural imbalance of the construction market, let alone issues concerning data availability and reliability (Lopes, 2001). However, data on awarded public work tenders (AECOPS, 2001) suggest that there has been a marked increase in R & M construction works. The share of R & M public works in total public works increased from 13% in 1993 to 26.4% in 2000. The repair and maintenance of the road network accounted for most of this increase.



**Figure 3:** New construction, R&M in Portugal and in Euroconstruct Countries (%): 1998-2000. - *Euroconstruct (2001)*

Fig.3 clearly shows that contrary to the almost insignificant share of the Portuguese R& M segment, new residential buildings are the great contributors to the total construction market. Indeed, the segment of new residential buildings experienced a marked increasing growth throughout the last 17 years, following the admittance of the country to the then European Economic Community in 1986. However, in the last three there is a trend of decrease due to excess supply and the recent (2002) legislative measures to end the subsidised regime in mortgage credit for housing.

A bright prospect is for the repair and maintenance segment. The recent legislative measures targeted at stimulating initiatives for the rehabilitation and modernisation of specific ageing residential parks, particularly in the metropolitan areas, added to the EU directives to lower the VAT in labour-intensive industries, will undoubtedly contribute to the development of this sub-segment of the construction market.

## 5 M & R CONSTRUCTION PRACTICES

This section presents some results of a case study that was undertaken between April and July 2002 on heritage building projects, which were submitted to the public authority responsible for the approval of this kind of construction projects. The aim was to investigate the materials and components used in reconstruction works, as well as the technologies adopted in restoration/substitution of materials and components. The analysis comprised a study of 52 building projects in protected areas and 5 listed building projects. The geographical area covered in the study is the north region of Portugal and the regulatory authority is the O'Porto Regional Directorate of IPPAR.

The choice of the sample was made in a random and sequential form and was independent of the decision of the regulatory authority on the projects designs. For reasons of confidentiality, the names of the promoters and construction professionals participating in the projects are not stated.

The variables which were analysed are: type of occupation before and after reconstruction works; architectonic value; kind of intervention; typology of the building; quality of design; and characteristics of architectural and structural materials and components. The architectural and structural components were analysed according to their conservation stage, and their similarity in case of the substitution of the existing ones.



The restoration of existing structural materials is very low with the exception of the external walls (Fig. 6). Again, there is a lack of detailed information in the project designs regarding this issue.

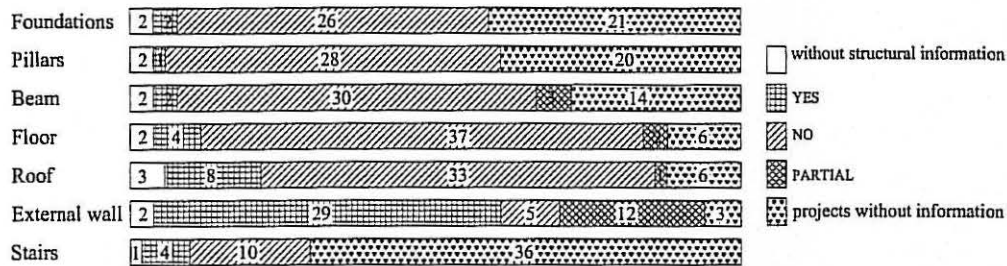


Figure 6: Reference to restoration of existing building components

## 5.2 Listed Building Projects

### • Occupation Before and After Reconstruction

As earlier referred the sample is very small, which is consistent with the small number of intervention (as far as existing architectural designs) in this type of buildings. Note that most important listed buildings are not subject to significant architectural modification. As can be seen in Fig. 7, the occupation after reconstruction is aimed, for all buildings, at the tourism and hotel sectors. This is related to the financial incentives from the government to stimulate cultural tourism in the countryside. Another important aspect to be noted is that there are no financial incentives with regard to the reconstruction works aimed at their future occupation for housing.

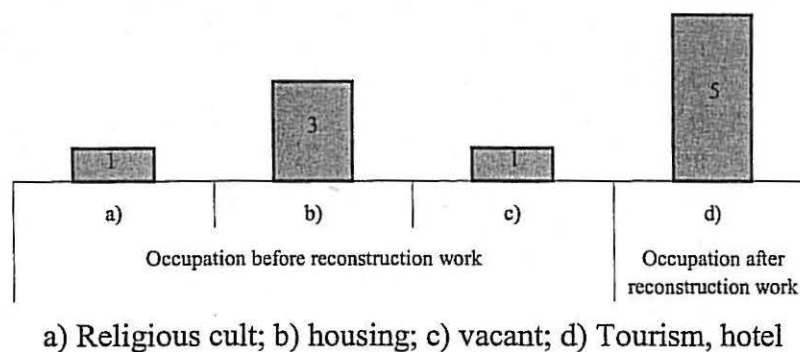


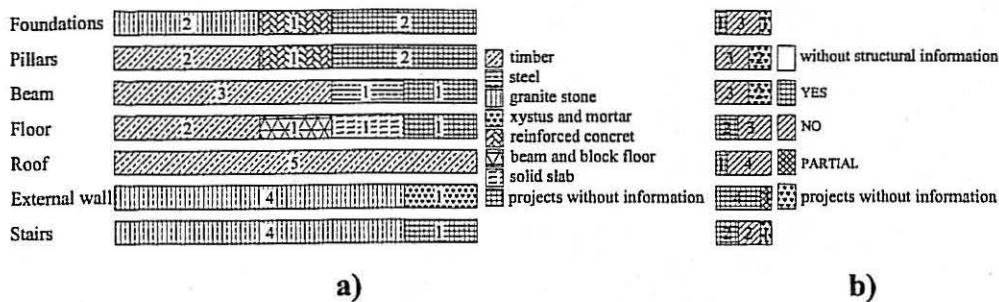
Figure 7: Occupation before and after reconstruction works

### • Structural Materials and Technologies Adopted

The pattern with respect to the structural materials adopted in reconstruction is similar to those used in the building projects in protected areas. Fig. 8a summarises the results of the different structural elements used in the interventions. As it would be expect in



this kind of projects, there seems to be a greater concern for the restoration of structural elements, particularly external walls, floors, roofs and stairs (Fig. 8b)



a) Materials and technologies;  
b) Restoration of existing buildings components

**Figure 8: Listed building;**

## 6 CONCLUSIONS

This study has presented some results of a case study conducted on 57 built heritage projects submitted to a regulatory authority responsible for the approval of this kind of construction projects. In addition, a description of the main institutional actors, and a prospect of the development pattern of the Portuguese R & M market have been presented. The share of this market segment in Portugal is almost insignificant when compared to the other countries of the European Union but the prospect is for a marked growth in the years ahead due to the ageing of residential parks and policy initiatives to stimulate the rent market. The increasing concern for the safeguard of heritage buildings adds to the situation.

Although the research is in an evolutionary stage, some preliminary results can be presented regarding construction practices in protected areas in Portugal:

There is a concern for the part of the regulatory authority to enforce the façade of buildings with respect to materials and colours, but no special care is taken with regard to the internal components;

The surveying and diagnosis of the structural components, as well as their conservation stage are not a common practice for the part of the architectural firms;

The restoration of degraded components and their substitution by similar materials are not a privileged practice in the rehabilitation of building;

There is a lack of detailed information regarding the structural elements in the architectural designs.

Some practical recommendations, consistent with the analysis presented here, are thus stated:

Construction professionals and architects should endeavour to present integrated solutions with regard to the structural elements, materials and components. In addition, the control and supervision of works should be strengthened so as to comply with the prescription of the architectural designs approved by the regulatory entity;

There is a need for the part of the construction enterprises to invest in the professional training of their employees. The acquisition of new equipments and tools suitable for the intervention in the built heritage market is also needed.

The policy initiatives and financial incentives target at stimulating the built heritage market sub-segment should be strengthened.

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