

9th International Masonry Conference 2014 in Guimarães

Promoting Change in the Construction Sector

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GECORPA – Grémio do Património



Industrial Challenges Session's scope

Discuss the main trends and challenges to the masonry industry

Promote the communication between industry and academia

GECORPA's Objectives:

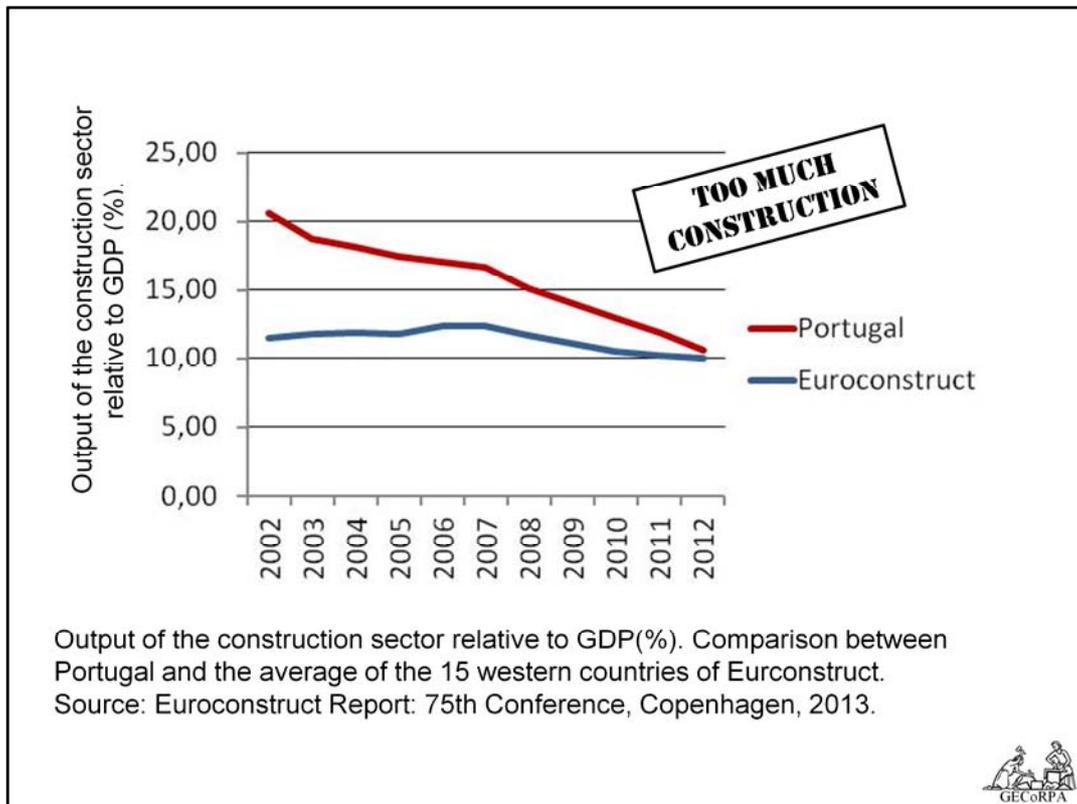
What is GECORPA – Grémio do Património – Portuguese Heritage Guild:

Non-profit association rallying companies and professionals from four areas of activity related with built infrastructure rehabilitation and Heritage conservation (design, I&T, execution, products).

GECORPA's objectives:

- I) Promote the maintenance and rehabilitation of the built infrastructure at large, and the valorization of the Built Cultural Heritage, thereby contributing to a sustainable development;
- II) Ensure the quality of interventions in this area of activity by spreading good practice and specialized training, promoting the qualification of professionals and enterprises and defending their interests;
- III) Contribute to the improvement of the construction sector regulation and to the enhancement of its role in the economy and in society.

The market



During the last two decades of the twentieth century and the first years of 2000, Portugal, along with Spain and a few other peripheral European countries, harboured a notorious boom of new construction, particularly in the residential and commercial building segments. The construction industry is now going through a painful adjustment process.

This chart, based on data collected by Euroconstruct, shows that, in Portugal, the gross production of the construction sector relative to GDP has been substantially **above** the average of the 15 western European countries affiliated in Euroconstruct.

Portugal has leveled out with the 15 western countries of Euroconstruct in output of construction relative to GDP in 2012.

(In 2011:
 Western Europe: 10,5%
 Portugal: 12,4%.

In 2013:
Western Europe: 9,7%
Portugal: 9,1%)

Construction enterprises relative to GDP
(x 1000, total and per bln. € GDP)

**STILL TOO MANY
CONTRACTORS**

Year	Western Europe		Portugal	
2013	2473	203,4	51	314,8

Sources:

GDP: Eurostat - Basic figures on the EU (2013)

Enterprises: FIEC - Key Figures 2014 - Activity 2013



This table shows that Portugal is still high in number of construction enterprises relative to GDP. It now ranks 3rd highest among 14 western countries of Euroconstruct (data on Norway not available).

(FIEC - Fédération de l'industrie européenne de la construction)

Construction jobs relative to Employment
(x 1000, total and % of Employment)

Year	Western Europe		Portugal	
2013	11349	6,2	301	6,6

Sources:

Employment: Eurostat - Basic figures on the EU (2013)

Jobs: FIEC - Key Figures 2014 - Activity 2013



This table shows that Portugal is now levelling out with Western Europe in employment in construction relative to total employment.

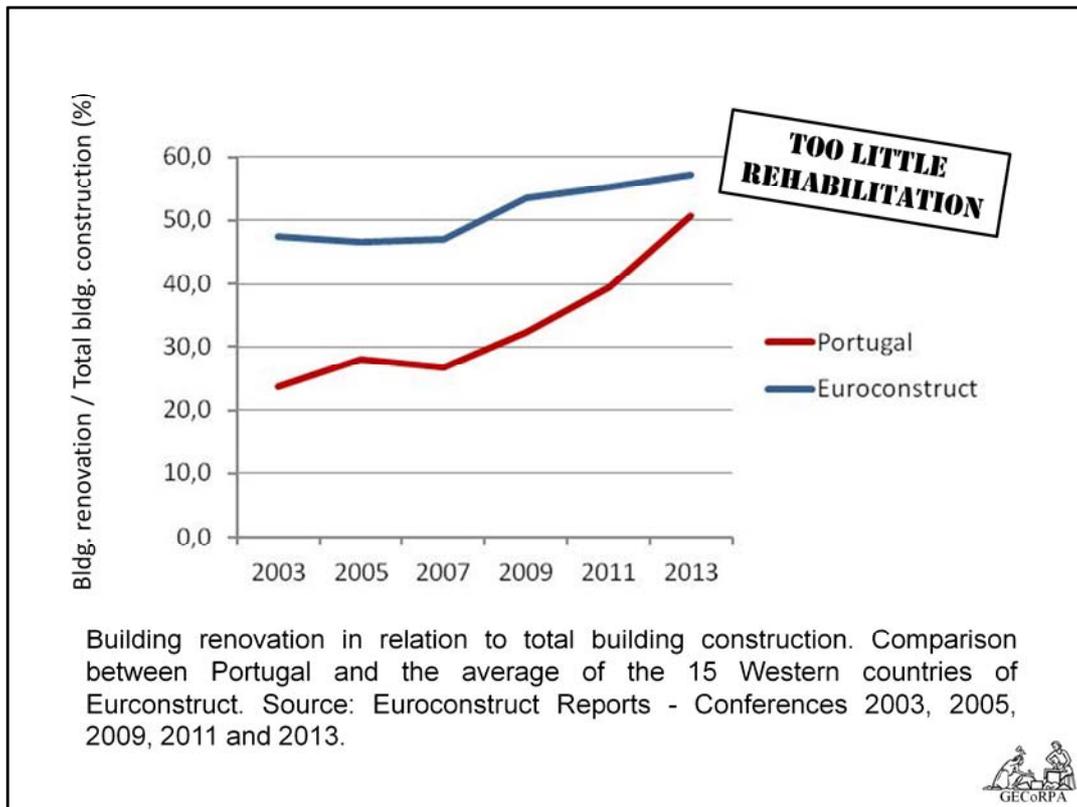
Productivity of the construction sector
(Output of construction/Jobs x 1000 €/Job)

Year	Western Europe	Portugal
2013	100,8	39,9

Source:
FIEC - Key Figures 2014 - Activity 2013



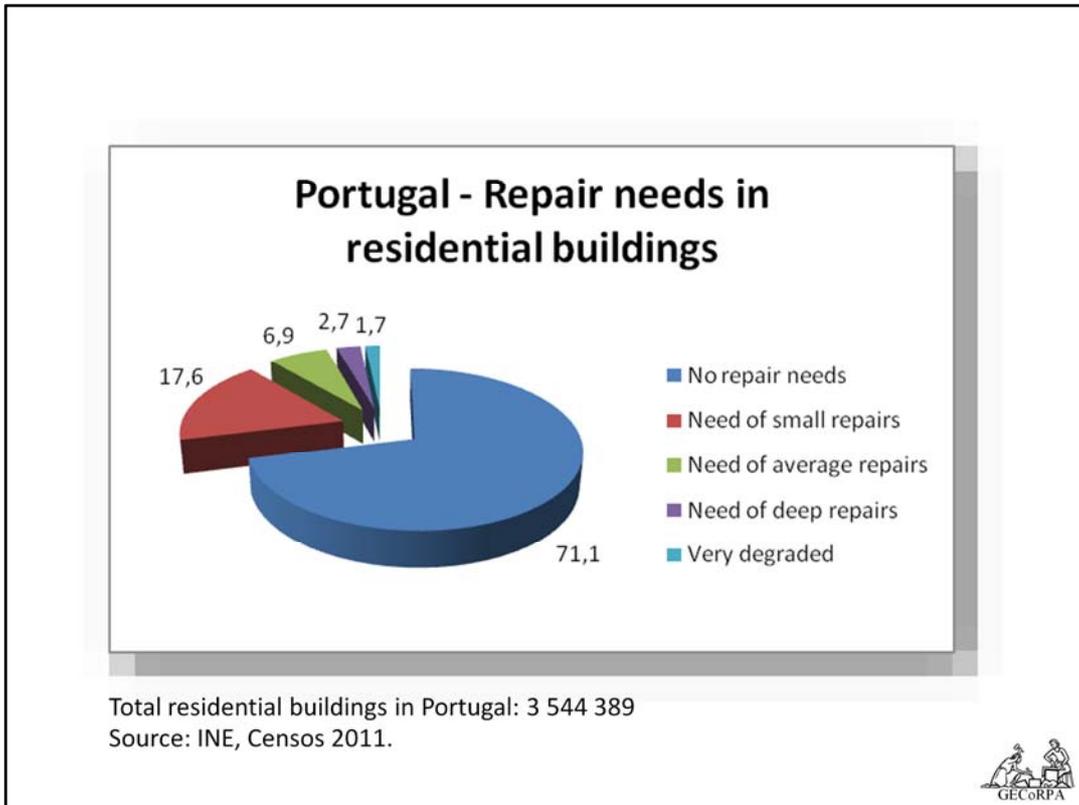
This comparison shows that the productivity of the Portuguese construction sector is well below the average of Western Europe. According to FIEC's figures, it has the lowest productivity among the Western countries of Euroconstruct.



In parallel with too much emphasis in new construction, care of the existing building stock and the old city centres lagged behind.

This chart shows that, in Portugal, the production of the construction sector in building renovation has been substantially **below** the average of the western countries of Euroconstruct.

Source: Euroconstruct Reports
 2003 e 2005: 62nd Conference, Munich, 2006
 2007: 68th Conference, Zurich, 2009
 2009, 2011 e 2013: 75th Conference, Copenhagen, 2013



A relevant part of the building stock of Portugal requires attention. Altogether, around some 350 000 buildings are in need of significant repairs. Monuments, historical buildings and old city centres, which make up the built Heritage, require not only interventions regarding their conservation, but also their valorisation as assets relevant to the competitiveness of cities and regions.

Financial resources needed

- Rehabilitation of residential buildings:
€75 000 million

Source "O Mercado da Reabilitação Enquadramento, Relevância e Perspetivas", AECOPS, 2009.



Globally, the funds required to rehabilitate the building stock are extremely high and very difficult to raise. The financial resources allocated to this end must therefore be applied in quality interventions, which are effective, durable and inexpensive, take into account the limitations of the existing buildings, particularly those with cultural value or located in historical city centres, thereby preserving their character.

The quality of these interventions depends on the QUALIFICATION of professionals and enterprises who conceive, design, execute and inspect them.

However, the present legal framework regulating construction activity has limitations:

1. It's too lenient and doesn't properly care about the qualification of the contractor's human resources in particular for private contracts;
2. It has been conceived for new construction;
3. Does not take into account the qualification of the personnel actually involved in front-end execution – the foremen and craft workers - when assessing contractors' technical capabilities;
4. Does not cover the other two groups of agents relevant to building rehabilitation : the companies in charge of the design and consultancy and the suppliers of inspection and testing services.



Annual investment in the conservation of Heritage in Portugal, corrected for the restrictions resulting from the adjustment program, is less than 200 million Euros. Current urgent interventions alone are estimated in 500 million Euros, which compares with an annual budget of a little over 10 million.

Quality (excellence, value) is a must in Heritage conservation and historic preservation.

Without proper quality management heritage enterprises are unable to fulfil their role. This applies to companies in the three areas of activity: design, I&T, execution.

Difficulties encountered

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Financial

Political

Educational and Cultural

Financial difficulties

- Investment and spending restrictions imposed by the “Memorandum of Understanding”.



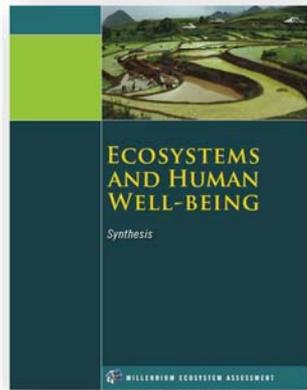
Financial:

The onset of the international financial crisis triggered the burst of the construction and real estate bubble and near collapse of the Portuguese economy, cutting short either public and private investment, including that allocated to Heritage conservation, to old city centres rehabilitation and to renovation of the building stock at large. Private investment ground to a halt as real estate assets devaluated and investors shied away. Since May 2011 Portugal is bound to a “Memorandum of Understanding” and under supervision of the Troika (European Commission; European Central Bank; International Monetary Fund).

In spite of the inherent limitations, the current situation contains the potential for the deep structural changes badly needed by the country in general and the construction sector in particular.

Political difficulties

“Government policies are extremely permeable to organized interests, particularly associated to the construction sector.”



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Political:

Past growth of the economy was too much dependent on construction. There was too much emphasis on home property instead of rental, too much investment in infrastructure, particularly in motorway and roadway construction.

According to the evaluation for Portugal in the Millennium Ecosystem Assessment promoted by the United Nations, the construction sector played and still plays a disproportionate role in economic activity. ... This gives the sector disproportionate political power, allowing it to influence legislation on land planning and to lead the government to invest heavily in infrastructure. This adds up to fast urban and infrastructure growth (e.g. highways).

“government policies are extremely permeable to organized interests, particularly associated to the construction sector.” P. 22

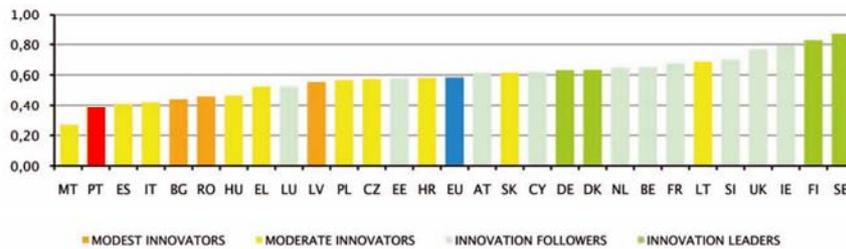
Source: Henrique Miguel Pereira, et al. – Ecosystemas e bem-estar humano. Avaliação para Portugal do Millennium Ecosystem Assessment. Escolar Editora, 2011. p. 75 (A contribution to the Millennium Ecosystem Assessment, prepared by the Portugal Sub-Global Assessment Team).

A relevant threat resides in the fact that old guard construction corporations tend to look at the now priority investment in the rehabilitation of the building stock as no more than a life-saver.

Educational and Cultural difficulties



Member States' performance in Human resources



Source:
Innovation Union Scoreboard 2014. European Commission.

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Educational and Cultural:

Lack of a high skilled and educated workforce. Features of the local “Southern European” culture making it difficult to implement mindset changes.

Source:

Innovation Union Scoreboard 2014. European Commission

“*Human resources*” is one of the 3 Enablers, which capture the main drivers of innovation performance external to the firm (along with ‘*Open, excellent and attractive research systems*’ and ‘*Finance and support*’). ‘*Human resources*’ includes 3 indicators and measures the availability of a high skilled and educated workforce. The indicators capture New doctorate graduates, Population aged 30-34 with completed tertiary education and Population aged 20-24 having completed at least upper secondary education.

Achievements

Too few to mention.



Priority to rehabilitation (GECORPA's first objective) has been recognised. But too late: 700 thousand vacant houses: twice those of Lisbon!

The second (quality assurance in rehabilitation and qualification of professionals and firms), is far from being reached. However, it will be fostered by the proposal of a system for the qualification of enterprises and professionals for building rehabilitation and heritage conservation.

The third (improve the sector's regulation and its role in the economy and in society) is also far from being reached. Legislation has evolved in the wrong direction. Excessive simplification and deregulation will make life easier for "cowboy builders".

GECORPA is actually "Work in Progress", trying to influence policy makers and stakeholders at large. For that purpose, GECORPA has cooperation agreements with a significant number of government agencies, professional associations and NGOs. It has been called upon by these entities, city councils and parliamentary groups in matters relates to its scope.

Example: Cooperation with Lisbon's city council in the design of the strategy for the EU framework program 2014 – 2020.

R&D needs



Project RehabToolBox



The market is in need of technology, products and systems for the rehabilitation and improvement of masonry structures, enabling effective, durable and inexpensive interventions, capable of extending their useful life.

Example: Engineered systems designed to strengthen masonry members with glass and/or carbon fiber grids in inorganic matrices coupled with through ties. Pictures refer to a recently concluded R&D project involving one GECORPA associate and the university, and show preparation and testing of large masonry specimens.

Exploitation: Main challenge to industry and academia: evolve from creativity to innovation, by bringing effective, durable and inexpensive rehabilitation solutions to the market.

Vision

A highly qualified and socially responsible construction sector, contributing to sustainable development



Construction is a human activity with high environmental impact...

Sustainable development is not possible if construction itself is not sustainable.

The sustainable use of the building stock and infrastructure should be promoted, and the construction sector should be prepared to contribute.

Vision...

The “New Builder” will mostly “build with the already built”:

- Improving of the performance of existing buildings in various strands: comfort and liveability, accessibility, energy, fire safety, structural safety (earthquake, wind);
- Maintaining and improving of existing infrastructure;
- Decommissioning and removing obsolete or with high negative impact buildings and infrastructure.

There will still be new construction, but dealing mostly with:

- Replacement of end of life buildings and infrastructure;
- Decontamination and remediation of soils, rivers and coastal areas and ecosystem regeneration;
- Defence works (infrastructures like groins and barriers), adaptation (infrastructure adjustment), displacement or removal of settlements and infrastructures along the coast, estuaries and other tidal areas, interventions that will be required to cope with rising sea level associated to climate change (2).



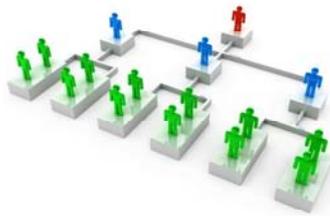
Qualification of enterprises and professionals through education and training is the strategy to accomplish this vision.

Low qualification of enterprises = ineffective and low durability interventions, which turn out expensive.

Prerequisites for enterprise qualification



Skilled and knowledgeable professionals at all levels



Solid organizational framework



Organisational innovation and quality management systems with the proper scope, are indispensable.

Other key elements in a qualified supplier:

1. Project planning, coordination and management;
2. Training and certification programs for workers;
3. Technology enhancement through innovation.

Advantages of enterprise qualification for society

- Higher productivity;
- Preservation and enhancement of skills;
- Higher services added-value and job stability;
- Reduced revenue gap.



The advantages of enterprise qualification extend beyond the intervention quality, because...

1. Higher productivity - Less waste of time and resources;
2. Preservation of old crafts and skills - both traditional and advanced (See “Return to the Art of Building” (Paris Declaration On heritage as a driver of development. Paris, December 2011);
3. Enterprise specialization = Higher added-value of services rendered, higher employment stability, better export opportunities;
4. Skill, Expertise = Higher added-value of labour, higher salaries, reduced revenue gap (Angel Gurría (OECD), one of the three ways to reduce the revenue gap: *“improve education and training performance at all levels, investing in competence”*).

In brief, changes:

1. Qualification of enterprises
2. Education and training of professionals...

will bring about a highly qualified and socially responsible construction sector, contributing to sustainable development.

However, qualification of enterprises and professionals is necessary but not enough. **It will be of no use unless owners and promoters require it.**



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Thank you.

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