



Building control systems of European Union countries

A comparison of tasks and responsibilities

João Branco Pedro

*OTB Research Institute for Housing, Urban and Mobility Studies,
Delft University of Technology, Delft, The Netherlands and
LNEC – National Laboratory for Civil Engineering, Lisboa, Portugal, and*

Frits Meijer and Henk Visscher

*OTB Research Institute for Housing, Urban and Mobility Studies,
Delft University of Technology, Delft, The Netherlands*

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Abstract

Purpose – The purpose of this paper is to compare the tasks and responsibilities of public and private parties in the building control systems of the 27 European Union (EU) countries.

Design/methodology/approach – To gather the necessary information, a questionnaire on building regulatory systems was distributed to experts in each country, and the major legal documents in each jurisdiction were reviewed. The information was organized into thematic tables that describe all the countries studied. The themes within the tables are: regulatory framework, application, plan approval, site inspection, completion, and supervision.

Findings – The paper finds that there are many similarities between the building control systems of the various EU countries. Public parties in all countries set the regulatory framework, check planning applications, issue building permits, conduct final inspections, grant completion certificates, and supervise the operation of the system. The main difference between them concerns the nature of the involvement of private parties in checking technical requirements, and in site inspections. Three basic types of building control systems are identified: public, mixed, and dual. The majority of the countries have mixed systems. Although several variations are found among the mixed systems, the most common situation is for public parties to check the technical requirements and private parties to be involved in site inspections.

Originality/value – The analysis provides a global picture of the building control systems of all EU countries. The results can be useful for situating the systems of each country within the European panorama, assessing the main trends and developments and guiding strategic choices on possible improvements in each country.

Keywords Buildings, Control systems, European Union

Paper type Research paper

1. Introduction

In every European country, there is a building regulatory system encompassing the building regulations and the building control system. Building regulations set minimum quality requirements to ensure that buildings are safe, healthy, energy-efficient, and accessible to everyone who lives and works in and around them. Building control aims to guarantee the application and enforcement of these minimum requirements.

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The general characteristics of the various building control system in European Union (EU) countries are similar. Designs must be prepared and submitted to an authority that approves their compliance with zoning requirements and building regulations. During construction, site inspections guarantee that the structure is built according to design, and that it complies with the building regulations. Once construction is complete, a final check is conducted and a completion certificate is issued.

Despite these similarities in the general characteristics, there are many differences between countries regarding procedural aspects of building control, including the following: simplified procedures, categories of construction works included in each type, possibility of phasing, submission requirements, frequency and moment of site inspections, criteria for determining the value of fees, and time limits of the procedure. However, the main structural difference concerns the division of tasks and responsibilities between public and private parties. Although it is beyond the scope of this research to explore the reasons for these differences in detail, they can be explained in terms of variations in the legal and administrative frameworks, in socio-economic conditions, and in the cultural traditions of each country.

The purpose of this paper is to compare the tasks and responsibilities assigned to public and private parties that enforce the building control systems in EU countries. The three research questions addressed are as follows:

RQ1. What are the main differences and similarities regarding the tasks and responsibilities of enforcement actors?

RQ2. What are the main types of building control systems?

RQ3. What are the main trends and developments?

The following section explains the rationale for carrying out comparative research on building control systems. Section 3 explains the research methodology and Section 4 presents the results of the comparative analysis. Section 5 describes the main types of building control systems and Section 6 describes the scope for further research in this area.

2. Trends of change in building control systems

Studying the building control systems of EU countries is important for several reasons (Mikulits, 2006; DCLG, 2008):

- The EU has developed a single market, thereby ensuring the freedom of movement of people, goods, services, and capital. Developments towards the harmonisation of national regulations have enabled construction products to be traded freely across the European Economic Area. Nonetheless, differences among the building control systems of EU countries continue to represent a barrier to the freedom of movement of services.
- The present trend towards a common market for construction products and services is likely to increase cross-border activities in the construction industry. Designers, applicants, and builders will have to deal with the different building control systems of the EU countries.
- Building control systems are changing. Building control was originally performed by building authorities, but there is currently a trend towards the

gradual privatization of building control. The tasks assigned to private parties vary by country.

- The growing need for housing in some countries justifies continuing or increasing the construction of new buildings. The goal of improving the maintenance condition and the energy efficiency of the existing housing stock is stimulating rehabilitation activity. There are more specialized building regulations and less public resources available for their enforcement. To face these demands, more efficient and effective building control systems are required.

Recent international comparative research on building control is quite scarce. Within this field, the OTB Research Institute for Housing, Urban and Mobility Studies conducted a comparative study of building regulations and systems of building control in eight European countries (Meijer *et al.*, 2002). The study showed a broad variety of organizational models for building control systems, with private parties playing an important role.

The Consortium of European Building Control (CEBC) conducted a study on the building control systems in Europe (Mikulits, 2006). Information about 21 European countries was collected and analysed. The main conclusion was that there were fewer differences among the building control systems in the responding countries than had been expected. In nearly all countries, private control elements were found at least as a means of delegating tasks to independent private experts.

More recently, OTB conducted an analysis of the consequences of private sector involvement in building regulatory enforcement (van der Heijden, 2009). To support the analysis, the regulatory enforcement regimes of eight case studies in Australia and Canada were compared. One of the results was the identification of five types of building regulatory enforcement regimes.

3. Methodology

The research presented in this paper was conducted as part of a European comparative research project currently underway at OTB (Meijer and Visscher, 2008). The project aims to describe and compare the building regulation system in 34 European countries. The main subjects addressed are as follows: the organization and formulation of technical building regulations, the tasks and responsibilities of actors involved in building control, the technical and administrative aspects of the building permit procedure and the quality demands imposed on building control bodies.

The development of the research project was divided into two phases. In the first phase, the aim was to describe the building regulation system. National experts in each country received questionnaires about their building regulatory systems. Based on information obtained from the questionnaire and the analysis of major legal documents, a monograph was written for each country. In the second phase of the project, the aim was to compare the building regulation systems of the European countries in order to identify trends and developments.

This paper presents results from the second phase of the research project. The focus is on the tasks and responsibilities of actors involved in building control. The basis of the analysis is restricted to the 27 countries of the EU. Owing to the federal structures of Austria, Germany, and Belgium, analyses of each of these countries focuses on a single province or region. With regard to the UK, information was collected for

England and Wales. The comparison of building control systems is divided into the following parts: regulatory framework, application, plan approval, site inspection, completion, and supervision.

The actors who intervene in the building control systems are divided into public parties and private parties. Public parties are the central, regional, and local authorities, including their departments and agencies that relate to construction. Private parties (individuals or corporate bodies) were classified as follows:

- The applicant starts the project and manages its implementation.
- The designer develops the design submitted with the application for a building permit.
- The design auditor checks the compliance of the design with the building regulations.
- The builder builds the construction work under a contract with the applicant.
- The building surveyor is authorized to conduct site inspections.
- The approved inspector is authorized to perform private building control, which includes checking the compliance of the design with the building regulations and site inspections.

4. Comparative analysis

4.1 Regulatory framework

In all EU countries, building regulations and the rules for their enforcement are set by the public parties at a central level (Table I). In some countries, this legislation can be complemented at the regional and local levels. Owing to their particular administrative divisions, some countries do not follow the general rule. These exceptions are as follows:

- In Austria and Germany, central (federal) authorities set a model of building regulations and enforcement rules that is adapted by regional authorities.
- In the UK, different regulatory systems exist in England and Wales, Northern Ireland, and Scotland.
- In Belgium, the different levels of authority legislate over different requirements.

In some countries (e.g. England and Wales), responsibility for the enforcement of building regulations concerning quality demands for private parties is delegated to

	Austria	Belgium	Bulgaria	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	The Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom	
Central authorities	☐	☐	■	■	■	■	■	■	■	☐	■	■	■	■	■	■	■	■	■	■	■		■	■	■	■	☐	
Regional authorities	■	☐								■				■											■		■	
Local authorities		☐										■		■	■		■				■							
No information				■																		■	■					

Table I.
Who sets the building regulations and the rules for their enforcement?

private parties. In these countries, public parties outline the criteria, and private parties are responsible for determining the details.

Although public parties take a leading role in setting the regulatory framework of building control, most countries have schemes to ensure the participation of private parties. For example:

- In Denmark, there is an ongoing dialogue with the parties of the building industry. Collaboration takes place through a building policy forum and user panels on specific areas.
- In The Netherlands, an advisory board discusses future developments in the building regulatory regime and may give advice to public authorities. All parties within the building sector are represented in these boards.
- In England and Wales, public authorities promote public debate concerning proposed reforms to the building regulatory regime.

4.2 Application

An application for a building permit may be submitted by the owner of the property, a person who holds the right of construction on someone else's property, or a person who manages the building permit procedure on behalf of the owner.

The application includes a design of the proposed project. In the majority of the EU countries, the design must be developed and signed by a qualified designer (Table II). In most cases, the design team is coordinated by the architect, and specialists may be appointed to prepare particular designs.

The qualifications of designers must be documented by registration in the appropriate professional association. In some countries, the qualifications (education and experience) required to carry responsibility for a design vary according to the complexity of the construction work (e.g. more than four floors), type of building (e.g. listed building) and location of the building (e.g. inside the protection area of a listed building). The design of small construction works may be exempt from the requirement to be signed by a qualified designer (as in France).

In other countries (e.g. Denmark, Estonia, The Netherlands, Sweden, England, and Wales), there are no demands regarding the qualification of individuals who are responsible for the design. In these countries, it might be usual or advisable to hire a qualified designer, although doing so is not mandatory. In Estonia, designs that are not signed by a qualified designer must be checked by a design auditor. In The Netherlands, building authorities pay special attention during the process of plan approval to designs that are not signed by a qualified designer.

	Austria	Belgium	Bulgaria	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	The Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom
Qualified designer	■	■	■	■	■			■	□	■	■	■		■	■	■	■		■	■	■	■		■	■		
Anyone						■	■		□										■							■	■
No information													■					■					■				

Table II.
Who is responsible for the design?

- The applicant must appoint a design auditor for certain categories of construction works, with the remaining categories checked only by the building authority (e.g. Bulgaria).
- The applicant may voluntarily have the design checked by a design auditor, and the building authority can choose either to re-check the design or to accept the declaration of the auditor (e.g. Latvia).
- The applicant may choose between having the design checked by the building authority or by an approved inspector, excluding re-checks by the building authority (e.g. England and Wales).
- The applicant must appoint a design auditor (e.g. Romania).
- The applicant must appoint a design auditor for certain categories of construction works, and the remaining works are not checked (e.g. France and Slovenia).
- The building authority checks only the preliminary design (e.g. Portugal).
- Plan approval does not include checking the technical requirements (e.g. Sweden).

For some requirements (e.g. energy and indoor air quality), there may be specific control systems that are separate from those used during the general procedure for approving plans. Auditors may be appointed to check either the complete design or some part of it (e.g. gas installations, energy, and indoor air quality).

When the technical requirements are not checked in their entirety (as in Portugal and in the case of some categories of construction works in France, Slovenia, and Sweden), the designer’s declaration of compliance constitutes sufficient guarantee for the building authorities. In France, an audit of the design may be necessary for insurance purposes.

Depending on the type of building and its location, approvals from authorities other than the one issuing the building permit may be required. The authorities that are consulted fall into four main groups, according to their tasks:

- (1) authorities that manage the listed buildings, collective facilities or environmental heritage and their protection areas;
- (2) authorities that supervise the use of certain types of buildings;
- (3) authorities that provide urban services; and
- (4) authorities that guarantee health and safety.

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Building authority	■	■	■	■	■	■	■	□	□	□	■	■	■	■	□	■	■	■	■	■	□	■	■	■	■	■	□
Professional association																									■		
Design auditor			□					□	□	□					□							■		□			
Approved inspector																											□
Not checked									□												□					■	

Table IV.
Who checks the technical requirements of a building permit application?

4.4 Site inspections

The applicant, the builder or both are responsible for ensuring that the construction work complies with the approved design and the building regulations. To control the construction work, site inspections are conducted by public or private parties (or a combination). If there are indications that no building permit has been issued for a part of the construction work, or that construction is in violation of the building permit, construction work can be stopped.

In approximately half of the EU countries, public parties are involved in some way in site inspections. Private parties may be involved in site inspections in almost all EU countries (Table VII). The degree to which public and private parties are involved in site inspections varies significantly. The following distributions of tasks and responsibilities between public and private parties were identified:

- The building authority conducts site inspections (e.g. Hungary, Ireland, The Netherlands, and Slovakia).
- The building authority can conduct site inspections, and the applicant may appoint a building surveyor and the designer (e.g. Portugal).
- The building authority is responsible for site inspections but may appoint a building surveyor to conduct them on their behalf (e.g. Germany).
- The building authority may conduct site inspections or delegate them to a private party, such as the applicant, the builder, the designer or a building surveyor (e.g. Finland and Sweden).
- The building authority and a building surveyor (appointed by the applicant) conduct site inspections (e.g. Bulgaria, Czech Republic, Italia, Malta, Poland, and Spain).
- A building surveyor appointed by the applicant conducts site inspections, with the building authority participating as well, for some categories of construction works as well (e.g. Lithuania).
- A building surveyor appointed by the applicant conducts site inspections (e.g. Belgium, Cyprus, Romania, and Slovenia).

	Austria	Belgium	Bulgaria	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	The Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom
Building authority	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Building surveyor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Approved inspector																											<input type="checkbox"/>
Designer		<input type="checkbox"/>						<input type="checkbox"/>							<input type="checkbox"/>						<input type="checkbox"/>			<input checked="" type="checkbox"/>			
Builder	<input type="checkbox"/>				<input type="checkbox"/>			<input type="checkbox"/>																		<input type="checkbox"/>	
Applicant							<input type="checkbox"/>																				
No mandatory inspection							<input type="checkbox"/>		<input type="checkbox"/>																		
No information											<input checked="" type="checkbox"/>																

Table VII.
Who conducts site inspections (if required)?

- A building surveyor appointed by the applicant carries out site inspections of some categories of construction works, and the remaining categories are exempt from control (e.g. Estonia and France).
- The applicant may choose between having site inspections carried out by the building authority or by an approved inspector (e.g. England and Wales).

Like Germany, other countries allow building authorities to appoint building surveyors to conduct site inspections on their behalf. Unlike the situation in Germany, however, this arrangement has no statutory status. For some requirements (e.g. energy and indoor air quality), there may be specific control systems other than those used during general site inspections.

Almost all countries require the designation of a public or a private party to be responsible for site inspections. Estonia and France are the only exceptions. In France, however, most applicants voluntarily submit their construction works to comprehensive schemes of private building control that include site inspections, as building control involves lower premiums for the mandatory decennial insurance. In Estonia, only small construction works are exempt of site inspections.

In some countries (e.g. Italy and Romania), the designer may also be the building surveyor, while other countries require site inspections by the designer for all construction works (e.g. Slovenia) or for particular categories (e.g. Bulgaria and Latvia).

Although private parties assume an important role in site inspections, public parties have the legal power to stop a construction work in all EU countries (Table VIII). In a few countries (e.g. Bulgaria, Italy, and Latvia), the building surveyor or designer also has the same power.

4.5 Completion

Once the construction work is finished, the building authorities are notified. A final site inspection is usually conducted by the building authorities and other authorities. If problems are found, the building authorities specify the corrective measures to be undertaken. If satisfied with the final site inspection, the building authorities issue or approve a document that certifies that the construction was completed successfully (i.e. a completion certificate) or can be used for the intended purpose (i.e. a use permit). In some countries, the building authorities rely on declarations by the private parties that conducted the building work or the site inspections, and they do not perform a final site inspection.

Table VIII.
Who has the power
to stop a construction
work?

	Austria	Belgium	Bulgaria	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	The Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom
Building authority	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Building surveyor			■											■	■												
Designer															■												
No information										■										■			■		■		

According to the information that has been gathered to date, public parties conduct final site inspections for all types of buildings in the majority of the EU countries (Table IX). In almost all the remaining countries, the final site inspection is required only for certain types of buildings, usually those that are open to the public. In Poland, Portugal, and Sweden, public parties do not conduct a final site inspection if they are satisfied with the documentation that attests to the fulfilment of the obligations of construction control and if they find no cause to intervene. Even if final site inspections are not mandatory, public parties can always choose to do so.

Approximately, two-thirds of EU countries require completion certificates or use permits granted or approved by the public parties for all types of buildings (Table X). In almost all of the remaining countries, such documents are required only for certain types of buildings, including:

- all buildings except small buildings (e.g. single-family houses, holiday homes, garages, carports, and greenhouses) in Denmark;
- buildings open to the public and very high buildings in France; and
- buildings with which the public interest is concerned (e.g. hotels, hospitals, theatres, and shopping centres) in Belgium and The Netherlands.

An exceptional case emerges in countries in which the completion certificate is not required but where the applicant can request it from the builder (e.g. Ireland) or the building authority (e.g. England and Wales when the applicant opts for public building control).

When required, the completion certificate or use permit is usually issued by public parties. Exceptions occur in England and Wales, for situations in which applicants

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Building authority	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Table IX.
Who conducts the final inspection (if required)?

	Austria	Belgium	Bulgaria	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	The Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom
Building authority	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Approved inspector	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Table X.
Who issues the completion certificate/use permit/approval (if required)?

have opted for private building control. In such cases, the approved inspector issues the completion certificate and informs the local authority, who then has a specified period within which to reject it. In Poland, some buildings require a use permit, while the rest require the submission of a completion notification and other documentation to the building authority, which has a specified period within which to raise objections.

4.6 Supervision

Supervision involves overseeing and auditing entities that carry out plan approval and site inspection. In all EU countries, public parties perform this function. These public parties are central or regional governmental bodies. When local authorities are not involved in the control of construction works, they usually supervise the performance of private parties as well (Table XI).

5. Conclusion and discussion

5.1 Main differences and similarities between EU countries regarding the tasks and responsibilities of enforcement actors

In EU countries, public parties set the regulatory framework, check planning requirements, issue building permits, conduct final inspections, grant completion certificates, and supervise the system. The main difference between countries concerns the parties responsible for verifying the technical requirements of the design during plan approval, and for conducting site inspections during construction.

The involvement of public and private parties in checking the extent to which building designs comply with technical requirements can be classified into four main patterns (Table XII):

- (1) The designs are checked by public parties.
- (2) Public parties may delegate responsibility for checking to private parties.
- (3) Applicants may choose between having their designs checked by public or by private parties.
- (4) Designs are checked by private parties.

In some situations, the technical requirements of the design are not checked. Public parties play a dominant role in checking the technical requirements of the design.

With regard to site inspections, the involvement of public and private parties can be classified into five main types (Table XIII):

Table XI.
Who performs supervision of regulatory system?

	Austria	Belgium	Bulgaria	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	The Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom
Central authority		■	■			■			■	■		■			■	■		■	■	■	■	■	■	■		■	■
Regional authority		■								■						■											
Local authority									■												■	■				■	
No information	■				■	■		■			■		■	■			■								■		

- (1) Site inspections are conducted by public parties.
- (2) Public parties may delegate responsibility for site inspections to private parties.
- (3) Applicants may choose between having their sites inspected by public or by private parties.
- (4) Site inspections are conducted by public and private parties.
- (5) Site inspections are conducted by private parties.

In some situations, there are no mandatory site inspections. Private parties play a dominant role in site inspections.

5.2 Main types of building control systems in the EU countries

With regard to private and public responsibilities in plan approval and site inspections, three basic types of building control were identified (Table XIV):

- (1) Public building control: public authorities are responsible for plan approval and site inspection (e.g. Hungary, Ireland, The Netherlands, and Slovakia).
- (2) Mixed building control: public authorities and private parties share responsibilities for plan approval and site inspection.
- (3) Dual building control: the applicant can choose to have plan approval and site inspection conducted by public or by private parties (e.g. England and Wales).

Public	Austria, Belgium, Bulgaria (some types), Cyprus, Czech Republic, Denmark, Estonia, France (some types), Greece, Hungary, Ireland, Italy, Lithuania, Luxembourg, Malta, Poland, Portugal (preliminary design), The Netherlands, Slovakia, and Spain
Public may delegate to private	Finland, Germany, and Latvia
Applicant may choose between public and private	Latvia, England, and Wales
Private	Bulgaria (some type), France (some types), Romania, and Slovenia (some types)
Not checked	France (some types), Portugal (detailed design), Slovenia (some types), and Sweden

Table XII.
Who checks the requirements of the design during plan approval?

Public	Bulgaria (some types), Hungary, Ireland, The Netherlands, and Slovakia
Public may delegate to private	Germany and Luxembourg
Applicant may choose between public and private	Finland, Sweden, England, and Wales
Public and private	Austria, Bulgaria (some types), Czech Republic, Italy, Latvia (some types), Lithuania (some types), Malta, Portugal, Poland, and Spain
Private	Belgium, Cyprus, Denmark, Estonia (some types), France (some types), Latvia (some types), Lithuania (some types), Romania, and Slovenia
Not checked	Estonia (some types) and France (some types)

Table XIII.
Who conducts site inspections?

Table XIV.
Analysis of the main
features of building
control

	Austria	Belgium	Bulgaria	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	The Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom
Regulatory framework	■	■	■	■	■	■	■	■	■	■	■	x	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Planning requirements	■	■	■	■	■	■	■	■	■	■	■	x	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Technical requirements	■	■	■	■	■	■	■	■	■	■	■	■	■	■	○	■	■	■	■	■	■	■	■	■	■	■	○
Building permit	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	○
Site inspections	■	□	■	□	■	□	○	□	■	■	x	■	■	■	■	■	■	■	■	■	■	□	■	□	■	○	○
Completion certificate	■	■	■	■	■	■	■	■	■	■	■	■	x	■	■	■	■	x	■	■	■	■	■	■	■	■	■
Supervision	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Type	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed	Public	Public	Public	Mixed	Mixed	Mixed	Mixed	Mixed	Public	Mixed	Mixed	Mixed	Public	Mixed	Mixed	Mixed	Dual

Notes: □, private sector; ■, public sector; ■, public and private; ○, public our private; x, not applicable or information unavailable

- A number of variations were found within the category of mixed systems:
- Public parties check the technical requirements, but private parties may be involved in site inspections (e.g. Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Italy, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, and Spain).
 - Private parties may be involved in checking the technical requirements and site inspections (e.g. Bulgaria, France, Germany, and Latvia).
 - Private parties are responsible for both the technical requirements and site inspections (e.g. Slovenia).
 - Technical requirements are not checked during plan approval, and private parties may be involved in site inspections (e.g. Sweden).

The first situation is the most common in EU countries. Public parties are still responsible for plan approval, although they encourage the participation of private parties in site inspections. In very few countries, is it possible for applicants to choose between private or public parties. Only in England and Wales is there a complete system of private building control.

5.3 Trends and developments in building control systems of the EU countries
In an overall analysis, similarities were identified among the building control systems of EU countries regarding the tasks and responsibilities of enforcement actors. Public parties maintain a dominant role, although private parties are involved in building control systems of 23 of the 27 EU countries. The role of private parties is generally to support the enforcement of the system, primarily in tasks that demand technical expertise or intensive survey of construction works. These results are consistent with the conclusions of previous studies about the subject, particularly the CEBC report (Mikulits, 2006).

Although many similarities were found among the building control systems of the EU countries, the differences in the involvement of private parties in building control still constitute a barrier to the freedom of movement of people and services. Additional uniformity among building control systems would be beneficial in supporting a single market for services in the construction industry, in which architects, developers and builders are no longer limited to working in national markets.

6. Future developments

Building upon previous studies (Meijer *et al.*, 2002; van der Heijden, 2009), this research has established an analytical framework. The analysis provides a global picture of the building control systems of the European countries. The results can be useful for situating the systems of each country within the European panorama, assessing the main trends and developments and guiding strategic choices on possible improvements in each country.

However, the conclusions presented in this paper are not definitive, as the necessary information has not yet been gathered and validated for all countries. In addition, this paper focuses only on the construction works that follow a regular building-permit procedure. Specific aspects of simplified procedures (e.g. building notice and simple procedure) were not included in the analysis.

A complete analysis of the regulatory systems of the European countries requires further comparative studies, focusing on the organization and formulation of technical building regulations, the procedural aspects of building control and the quality demands of public and private building-control bodies. Furthermore, the analysis of regulatory systems should proceed with studies about the performance of each type of system in terms of adequacy, efficiency, and effectiveness.

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Corresponding author

João Branco Pedro can be contacted at: jpbro@lneec.pt