CODICE2

MINISTERIO
DE ECONOMÍA
Y HACIENDA

Analysis of Electronic Procurement Processes

Project

CODICE2

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CONTENTS

1. Introduction

1.1 Scope and aims of this project

CODICE2 represents a further development of CODICE 1.06 document models to meet the challenge of implementing full electronic procurement projects. The first version of CODICE documents has enabled the creation of the National Procurement Platform in Spain and sharing of announcements and notices between the different actors involved in electronic procurement processes. The new version of CODICE shall allow us to go one step further by laying the groundwork leading to the development of electronic procurement processes such as the admission and exclusion of candidates or the evaluation of tenders and their awarding.

For economic operators, CODICE2 is intended to help them create support systems to generate tendering and qualification documents.

1.2 Typographical Conventions

The terms (acronyms, words or expressions) in italics are defined in the Glossary at the end of this report.

The list of documents, books, web addresses, etc. constituting the bibliography appears in the References section at the end of this report.

1.3 Scope and content

This analysis paper is divided into four main sections:

1.3.1. Prerequisites

This section details the initial requirements that have been taken into consideration when modelling and defining new models in CODICE2.

1.3.2. Procurement procedures

This section describes in detail different procurement procedures. The business processes to be developed inside information systems of involved parties are not described. Only those special considerations to take into account to implement different procurement procedures from a legal standpoint are explained.

As a special case, this section describes streamline systems of procurement in which public purchases are undertaken in two phases. First, conditions and participants are established. In a second stage, actual recurrent purchases are carried out.

1.3.3. Business processes

This section describes the different business processes to be implemented by the different actors involved in procurement processes. The analysis is performed from the point of view of the elements or processes that can be automated or semi-automated, thought to perform the reception or issue of structured electronic documents. It is not thought as a functional analysis of business processes. Actually, it is intended to provide a definition of the use of these electronic documents supporting such processes.

1.4 Working Groups

To create CODICE2 documents input from various agencies and companies that have been working with version 1.x of the standard has been taken into account.

1.5 Target Audience

Target audiences for this product are business experts on the domain of "public procurement" who want to study how the knowledge can be represented on public procurement in the European and Spanish legal framework.

Analysts and designers of components and documents who need to understand the library of CODICE components and its assembled documents.

Technology consultants, analysts, designers and programmers who need to analyze, design and deploy new devices, information systems and applications based on the results of CODICE project.

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2. Prerequisites

2.1 History of CODICE

The Dirección General del Patrimonio del Estado in Spain, in line with the principles established by the European Commission in the development of eProcurement in eEurope Action Plans 2002 and 2005 and to facilitate the vision of the Lisbon Agenda, established in 2005 a strategy to deploy the required infrastructure for the establishment of electronic procurement systems in Spain among public agencies and private companies.

This strategy started with the creation of document models that enable standardized information exchange among different actors involved in e-procurement processes in the public sector. It continues with the creation of underlying systems needed to support users in both the public and private sector.

In 2006 a first project was awarded, consisting on the definition of document models. The project was named CODICE [1] and one of its objectives was to be aligned with international experiences related to standards for electronic documents in order to create a vocabulary with European vocation. To achieve this goal, apart from conducting an analysis of the 2004 European Directives [2], the most advanced vocabularies of electronic commerce in XML format at that time were analyzed:

- Document models created within the UN / CEFACT TBG6 group.

- Document models defined in OASIS UBL 2.0 library.

As a result of thorough analysis of the models defined within the UN/CEFACT and the regulations in Europe as defined by Directives 2004/18/EC and 2004/17/EC as well as the draft law on public sector contracts in Spain and the interfaces for the publication of contracts subject to harmonized legislation in the Official Journal of the European Union [3], the Dirección General del Patrimonio del Estado concluded that the models defined within UN/CEFACT were clearly not sufficient to create documents in accordance with Spanish and European legislation. For this reason, the Dirección General del Patrimonio del Estado took the strategy of creating new models of documents based on:

- TBG6 models of UN / CEFACT as a basis of document models and basic structures.

- UBL 2.0 library of components to enable reuse of common elements in other documents of the supply chain.

- ebXML Core Components Technical Specification for the creation of new specific components for e-procurement, and therefore not found in the UBL 2.0 library of components.

With this approach, by the end of 2006 the first list of documents for tendering business processes based on electronic international standards was created.

Based on this set of documents, a series of projects started in 2007 to promote electronic tendering in Spain. Among the projects launched in various regions and local authorities, the development and deployment of a National Procurement Platform is remarkable. The National Procurement Platform is a web-based system that centralizes buyer profiles and associated documentation (call for tenders, specifications, award notices, etc.) from all contracting authorities inside the General State Administration in Spain and other voluntarily adhered agencies dependent on other government administrations.

Systems developed during this first period focused on the processes of publishing notices in national and European publishing bodies to increase the transparency of public procurement procedures.

In parallel with the process of deployment and adoption of CODICE in Spain, in early 2008 there was an alignment with a European initiative defined by the Committee European of Normalization (CEN). This initiative ended up in a workshop called CEN WS BII [4] where a large group of countries in the European Union assume the objective of creating profiles to exchange standardized document models to be used in both pre-award and post-award phases of public procurement processes.

UBL 2.0 documents used in the Nordic countries through the NES project [5] provided the basis for the creation of profiles and document models of the post-award phase. Besides, CODICE models provided the basis for the definition of profiles and document models for pre-award phase.

2.2 Need for development

Creating an e-commerce standard like CODICE is expensive. Moreover, its deployment is time consuming and requires maintenance.

The Dirección General del Patrimonio del Estado wants CODICE to become an international standard. As an international standard, CODICE shall be able to:

- Enhance an interoperability framework in a European context

- Facilitate its maintenance by expert dedicated organizations

Since its first publication in 2006, CODICE has been adopted by various agencies in the creation of their electronic tendering systems. This adoption by third parties enforces to support them and to ensure an evolution of the system being able to cope with and include any new use cases and to solve any issues that may occur during its use over time.

The Dirección General del Patrimonio del Estado has undertaken this responsibility through this project leading to the evolution of CODICE. Thus, different requirements from several agents have been properly collected, analyzed and resolved. However, the Dirección General del Patrimonio del Estado is not a national or international standardization organisation. Its role is not to maintain nor develop standards for electronic commerce. For this reason it seemed to be necessary to make this standard available to an organization that could collect the work done to date, bring it to the category of international standard and also ensure its future maintenance and ongoing development.

CODICE has been incorporated within the scope of UBL 2.1. This will allow other European Union countries to use these structures, with the assurance that its maintenance does not depend on a Spanish government agency. Indeed it is an international organization that takes care of it.

2.3 High Level Requirements

In order to make CODICE evolve, requirements expressed by different agencies and entities that have been implementing CODICE 1.x in certain environments for the last years have been taken into account.

High level requirements for the development of this project can be summarized as follows.

2.3.1 International Convergence

When CODICE was first defined back in 2006, one of the main objectives was that its adoption became widespread in the European Union or even internationally.

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European Directives on public procurement promote transparency in public procurement processes and seek to promote a common European market. In this context, the development of national standards for electronic commerce is a major strategic error.

For this reason, the objective has always been for CODICE to become an international standard. In the first instance, in 2006 CODICE was started as a personalization of the work carried out within the UN / CEFACT, by TBG6. As it was not possible to incorporate all the requirements of Spanish law and European directives within TBG6, CODICE used UBL NDR (Naming and Design Rules) and the UBL TC library of components to create the document models that have been used as a reference in electronic procurement to date.

With the aim of sharing the experience of CODICE, the Dirección General del Patrimonio del Estado participated in the establishment of a working group on interoperable interfaces for electronic commerce within the scope of CEN. This Workshop was called CEN / ISSS Business Interoperable Interfaces where document models covering the pre-award phase are those originally defined in CODICE 1.0 as it can be seen in the credits of the documents of CEN. Based on these original models, CEN BII together with other EU countries have been working to gather new requirements and refine the models of these electronic documents.

For a model to be formally adopted by different member states of the EU, it is necessary that it has the endorsement of international standardization organisation [COM324]. In this sense, the objective of this project is to make CODICE available to international standardisation organisation for the purpose of:

- Achieving wide distribution and acceptance of the model by EU member states.

- Achieving an external maintenance through an agency dedicated to the support of international standards

- Achieving an alignment with other e-commerce documents, especially those of the post-award phases such as the order and the invoice.

There are currently two international organizations dedicated to the standardization of documents exchanged in e-commerce transactions:

1. OASIS

2. UN / CEFACT

CODICE models are based on UBL 2.0 and their related NDR. For this reason, OASIS and its technical committee UBL have been selected as candidates to host and develop the document models defined within the scope of CODICE. Internationally, there is a MoU (Memorandum of Understanding) between UN / CEFACT and OASIS to work on the convergence of their respective document models. Thus, it is anticipated that in the future a unique model of documents of the pre-award phase will be adopted too.

So the aim is not only to make CODICE models available to the OASIS UBL technical committee but also:

- To review improvements and requirements identified in the working sessions of CEN BII

- To adopt practices, models and suggestions of the UBL TC within the scope of CODICE

- To incorporate those requirements identified in the development of the National Procurement Platform and other projects developed by Spanish Public Administrations

- To deliver CODICE data models to UBL TC in OASIS so that they can be included in the new version of the standard.

2.3.2 Incorporation of new business processes

CODICE 1.x is the first CCTS-based XML standard aimed at covering the electronic tendering processes. This first version of the standard enables the automation of processes related to information publishing and notification to companies of the state of a tendering procedure.

With the advent of the new Spanish Law on Public Sector Contracts and the new Regulation, it is considered necessary to incorporate new business processes within the framework of electronic tendering to simplify public procurement procedures. These new processes consist of decision support systems for contracting authorities or electronic tendering systems such as Dynamic Purchasing Systems or electronic auctions.

Among new requirements and business processes that have been considered in the evolution of CODICE the following have to be highlighted:

- Adapting CODICE to the processes related to providing guarantees to contracting authorities by economic operators

- Modifying CODICE data model to improve lots treatment

- Include within CODICE new requirements identified when developing the National Procurement Platform

- Adding requirements identified by other projects using CODICE in Spain. That is the case of the Generalitat of Catalonia, BOE national publication service or the Dirección General del Tesoro y Política Financiera.

- Adding changes to enable automated processes such as admission and exclusion, or evaluation of tenders

3. Procurement procedures

3.1. Individual procurement

In individual procurement procedures, the purpose of the contract shall be determined.

Regardless of the procurement procedure used, the Spanish Law 30/2007 [LCSP] specifies "when the purpose of the contract supports fractionation and thus it is duly justified in the contract file, an independent implementation of each of its parts split into lots may be undertaken". This means that when defining the project publication of notice documents regarding purchasing and awarding as well as tendering base documents, such a division into lots shall be made possible.

Individual contracting can be executed by means of several procedures. The most common is the so-called Open procedure.

3.1.1. Open procedure

An open procedure is one in which all interested economic operators may submit tenders for a proposed purchase.

Main actors involved in such a procedure are:

- A buyer, or contracting authority

- A notice publication system, including the buyer's profile and / or other notice publication systems such as European, national or regional official journals

- Sellers, economic operators or entrepreneurs

An open procedure and indeed all procurement procedures can be divided into three major phases:

1. A notification phase,

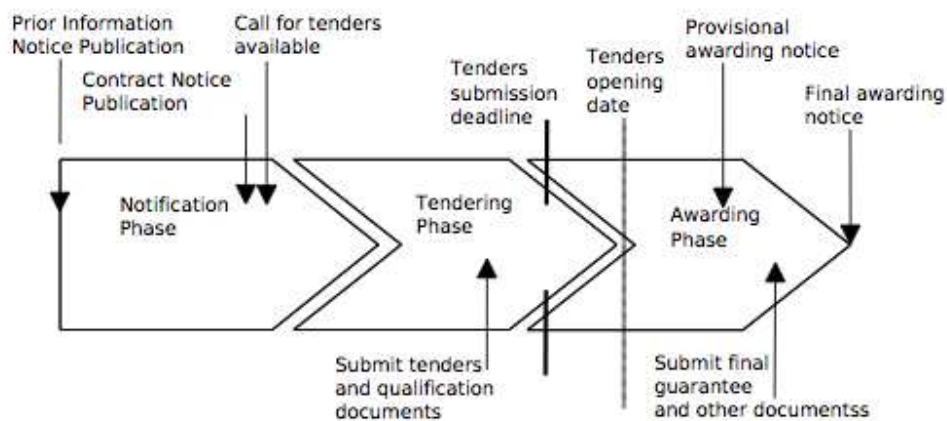2. A tendering phase and

3. An award phase

Fig 1 Open procedure

3.1.1.1. Notification phase

In the notification phase of the open procedure a contracting authority advertises its intention to buy goods, services or works by publishing an information notice.

Parallel to the publication of this notice, a contracting authority can create papers containing administrative terms and conditions and technical requirements governing the execution of the contract. These documents can be complemented with any number of additional documents which are considered to be necessary, such as plans, photographs, reports, etc. All these documents are supposed to be relevant to provide a proper assessment of a tender by an economic operator.

A contracting authority shall make the notice available to potential tenderers, through its buyer profile, and additionally by the publication in the corresponding official journal, depending on the type of contract and its amount. In the case of a contract subject to harmonized regulation [6], the notice shall be published in the Official Journal of the European Union (OJEU). Otherwise notices shall be published in a national, regional or provincial official journal according to the nature of a contracting authority.

Conditions governing the compulsory publication in the OJEU and the Spanish Official State Bulletin (BOE) are set out in European Directive 2004/18/EC [EU18] and in Spanish Law 30/2007 [LCSP] respectively. Under this Directive, the publication of notices in the buyer profile and the BOE of contracts subject to harmonized regulation shall not take place before sending to the OJEU [7] a notice of publication of that particular notice in the buyer profile.

Main documents involved in the notification phase are:

1. Call for tenders and additional documents and

2. Contract notice

Once a contract notice is published, the call for tenders including administrative terms and conditions and those containing technical specifications can also be provided electronically on the buyer's profile along with any additional documents relevant to the preparation of the tender.

Shall it be a contract subdivided in lots, both the contract notice and the call for tenders shall have the appropriate sections to discriminate the particular object of each lot as well as any specific condition of tender or award.

3.1.1.2. Tendering phase

Tendering phase of the open procedure covers the period of time elapsed from the publication of the notice to the deadline established for the receipt of tenders.

During this phase, economic operators prepare a tender and submit it to the contracting authority following the terms and conditions set in the contract notice and in the call for tenders published in the previous phase.

Those interested in participating in a tendering process can ask questions to a contracting authority in relation with the contents of the call for tenders or the development of the award process. Answers provided by a contracting authority shall be publicly available for anyone interested in participating in the competition process. This information, unstructured and therefore not modelled in CODICE, can be published in the buyer's profile to facilitate its dissemination among the participants in the competition process.

Depending on the conditions laid down in the call for tenders, a supplier shall prepare different models of tenders.

1. In any case, in open procedure, suppliers shall provide, either directly or through an external service, information about their status as a tenderer. This information shall contain:

- Evidences that ensure that a tenderer is non-excluded from the competition process in accordance with the reasons set out in the Law,

- Information on their business classification, if required,

- Evidence of technical solvency of a tenderer to meet the conditions laid down in the call for tenders,

- Evidence of economic and financial solvency, which satisfy the conditions laid down in the call for tenders,

- Experience in previous projects related to the purpose of the contract.

2. Shall the price or other objective criteria the only criterion to be evaluated, a tenderer may submit a single tender including information regarding products, works or services tendered along with its price, either in lump sum or by unit prices.

3. If the contract is awarded by multiple criteria and some of these were subjective, a tenderer would have to submit at least two documents.

- A document detailing characteristics that make reference to subjective criteria, whose evaluation depends on the assessment provided by a group of experts.

- Another document containing the financial proposal and those items automatically evaluated by objective criteria.

According to this, economic operators may send their tenders to a contracting authority, consisting on two or three electronic documents. The latter is bound to accept them and keep them confidential and secure until the opening date.

Each time a contracting authority receives a tender, they shall reply to the sender with a receipt notice specifying the date and time of receipt of the tender, and a reference to the original received document through generic metadata set in the electronic envelope. This metadata is the only accessible information of a tender. Its contents shall be confidential.

Received tenders shall be blocked until the opening date set in the call for tenders.

Documents that can be exchanged among a tenderer and a contracting authority are the following:

1. Documents on the qualification level of a tenderer

2. Document with subjective criteria

3. Tender document with economic and objective technical information

4. Notice of receipt of a tender

In the case of lots, and if it was stated by a contracting authority in the call for tenders, tenderers may choose to tender on one or more lots. In the award phase, each lot is awarded separately. Thus, the number of contracts generated shall be equivalent to the number of lots a contracting authority had previously defined.

3.1.1.3. Award phase

After the final date for reception of tenders, tasks regarding admission of tenderers, opening and evaluation of received tenders as well as provisional and final award of contracts shall begin.

Opening of qualification documents and the process of admission and exclusion of tenderers may start after the final date for reception of tenders.

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In the event that there are criteria whose weighting depends on value judgments, the document containing the response of a tenderer to the subjective criteria shall be opened on the date specified in the event defined in the call for tenders and the contract notice.

Finally, the document with the financial proposal and the items that meet objective criteria shall be opened on the date stated in the call for tenders.

Optionally, a contracting authority has the power to run an auction prior to the award, if indicated in the previously published call for tenders.

It is mandatory for a contracting authority to notify the participants about provisional and final results of the award process, as well as to inform them on available appeal procedures. In addition, and down to certain amounts depending on the type of contract, publication of this result in official journals [8] may also be mandatory.

Between the provisional and final award of a contract, the contractor, among other requirements, shall constitute the final guarantee, which is usually specified in the provisional award notice.

In this last phase, documents to be exchanged are the following:

1. Notices of admission or exclusion.
2. Contract award notices (provisional and final)
3. Certificates of Guarantee
4. Award and Non-award notifications

3.1.2. Restricted Procedure

In a restricted procurement procedure, all interested economic operators may request to participate, but only those who are invited by a contracting authority may submit tenders.
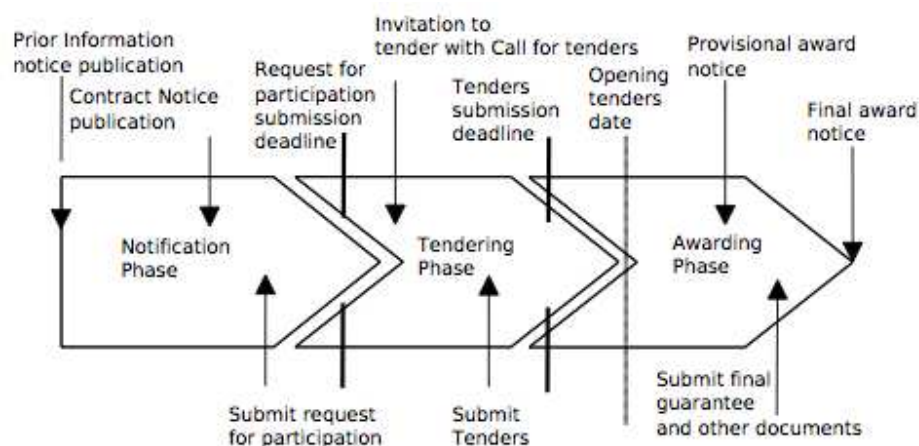

Fig 2 Restricted procedure

3.1.2.1. Notification phase

The notification phase is virtually identical to the one described for an open procedure above. It consists of the publication of a contract notice regarding goods, services or works to be purchased.

In this procedure, however, call for tenders are not issued with the contract notice. The Call for tenders document will be attached later with an invitation to tender and sent to the admitted candidates.

3.1.2.2. Tendering phase

In a restricted procedure, a tendering phase consists of three main processes:

- Tenderers express their interest
- Eligible candidates are selected and invited through an invitation to tender
- Invited tenderers submit their tenders.

3.1.2.2.1. Expression of interest

Interested tenderers request their participation by sending a contracting authority a request to participate together with their document of qualification (administrative documents).

Note that this document is the same as the one a tenderer provides in the open procedure together with the tender. In an open procedure, this document is opened and evaluated to select the eligible candidates before opening the tender documents.

In restricted procedures, qualification documentation is submitted before the tender to request for participation. The interest shown by a tenderer "is proved" by their sending of a request to participate and by their providing of the necessary documentation, which shall enable a contracting authority to decide whether the candidate is liable to be invited to the process.

The message that the candidate shall submit to a contracting authority in this step is:

1. Request to participate together with a tenderer's qualification document

The request to participate is not supposed to be modelled within the scope of CODICE. It is a notice, which includes the tenderer qualification document. This tenderer qualification document makes easier the assessment of administrative documents.

3.1.2.2.2. Invitation to tender

In this next step in the tendering phase, a contracting authority evaluates the documentation provided by each of the tenderers interested in bidding. If necessary, a tenderer is required to provide additional documentation or to correct the documentation provided.

The comparison of the conditions set out in the contract notice to be met by tenderers and the actual conditions they provide by means of their tenderer qualification documents shall lead to the creation of an admitted and rejected tenderers list.

A contracting authority shall invite the admitted tenderers by sending them:

1. An invitation along with the call for tenders and additional documents of a tender.

As in the previous case, this invitation to tender is not a formal document but the document contains a call for tenders, which contains all the information regarding the tendering process in a structured way.

Even if a company receives an invitation to tender it is not compulsory for them to participate in the competition process.

3.1.2.2.3. Presentation of a tender

A tenderer may choose to send a tender upon reception of an invitation to tender. In this case the same principles considered in an open procedure apply. A tenderer is bound to submit the same number of documents as defined for an open procedure. Nevertheless, no tenderer qualification is sent with a tender since it was already sent along with the request to participate in the tendering process in the first step.

Documents to be exchanged in this process are:

1. Technical tender document specifying subjective criteria
2. Technical and financial tender document specifying objective criteria
3. Notice of receipt of tender

3.1.2.3. Award phase

In a restricted procedure, the award phase is summarized in the following tasks:

- Opening and evaluation of tenders,
- Provisional award and
- Final award.

As in the case of contracts governed by an open procedure, the award shall be advertised depending on the amount and type of contract in the official journals and in the buyer's profile.

3.1.3. Negotiated procedure without publication of a contract notice

In general, a contracting authority may accept to run a negotiated procedure without publication of a contract notice for the reasons set forth in the LCSP [9].

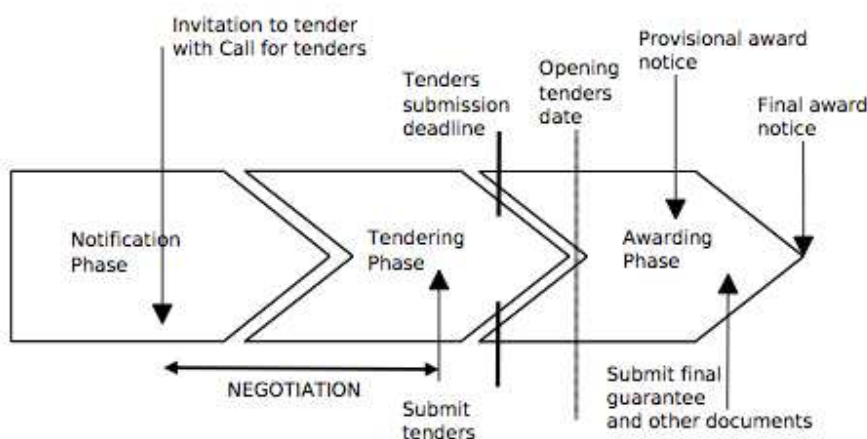**Fig 3** Negotiated procedure without publication of a contract notice

3.1.3.1. Notification phase

A negotiated procedure without publication of a contract notice may be used in such cases in which the use of other procedures would have lead to the presentation of irregular or unacceptable tenders. In such a case a contracting authority should invite every economic operator that has participated in the former, non-awarded tendering process.

In other cases, it shall request tenders from at least three qualified economic operators to achieve the purpose of the contract, whenever possible.

A contracting authority shall specify the scope of negotiation.

Therefore the following documents can be exchanged at this stage:

1. An invitation to tender along with the call for tenders and additional documents.

3.1.3.2. Tendering phase

Each tenderer negotiates independently with the contracting authority the economic and technical conditions related to the contract. Documents exchanged between both parties are essentially the call for tenders and as many additional documents as it may be required to negotiate in successive phases.

This negotiation process is in most cases very difficult to automate. This is why no exchanged documents in this phase are supposed to be modelled.

By the end of a negotiation process, each tenderer prepares its tender and sends it to a contracting authority within the prescribed period.

Documents to be exchanged in this phase are the following:

1. Tenderer's qualification document
2. A tender document stating subjective criteria, when necessary
3. Economic and technical tender document along with objective criteria

3.1.3.3. Award phase

The rest of the procedure follows exactly the same pattern as the one described for the award of tenders following a restricted procedure. It is also compulsory to publish the name of the contractor and the awarded amount in negotiated procedures without publication of a contract notice.

3.1.4. Negotiated Procedure with publication of a contract notice

A negotiated procedure with publication of a contract notice is virtually identical to the restricted procedure. The essential difference between both of them is that in a negotiated procedure with publication of a contract notice, tenderers are supposed to write a tender and send it to the contracting entity after negotiating its terms and conditions. In the restricted procedure there is no prior negotiation of the contract terms.
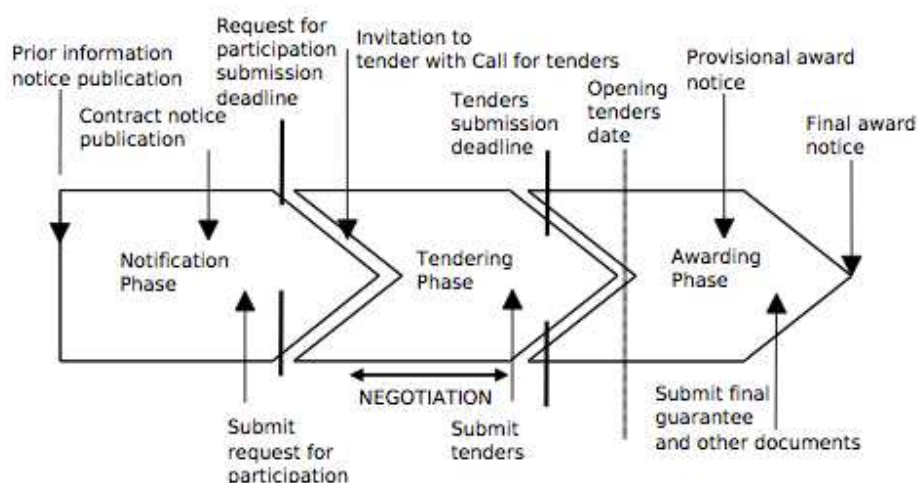
Fig 4 Negotiated procedure with publication of a contract notice

3.1.4.1. Notification phase

In the context of the notification phase of a negotiated procedure with publication of a contract notice, the same processes carried out during the notification phase of restricted procedure apply. These procedures are advertised in order to get candidates with whom certain points of the project may be negotiated.

The notice shall specify the scope of negotiation and the conditions under which the process of selection of candidates will take place.

3.1.4.2. Tendering phase

Both the details of expression of interest and development of the short list of accepted tenderers along with subsequent invitations to tender are the same applying to the restricted procedure. However, unlike the latter, a tenderer is not supposed to write a tender until they have completed negotiations with a contracting authority.

Provided with a list of candidates to negotiate, a contracting authority initiates a private negotiation with each of them. Both parties may exchange call for tenders, specifications and as many additional documents are deemed necessary for the negotiation as originally specified in the contract notice.

By the end of the negotiation phase, each tenderer prepares its tender and submits it to the contracting authority within the prescribed period.

Documents identified in this process are the same as those identified in the restricted procedure.

3.1.4.3. Award phase

The description of the award phase of the negotiated procedures with publication of a contract notice is the same as the one of the restricted procedure discussed so far. The same pieces of information regarding awards have to be published in the corresponding official journals.

3.1.5. Competitive Dialogue Procedure

In a competitive dialogue any economic operator may request to participate in a tendering process. In this procedure, contracting authorities prepare a descriptive document that describes the administrative terms and technical project and then they conduct a dialogue with candidates to develop one or more suitable alternatives capable of meeting their needs. Solutions emerging from the dialogue will provide the basis on which candidates are invited to tender.

This type of procedure is often used to carry out contracts of collaboration between public and private sector.

Competitive Dialogue shares most of its processes with the restricted procedure and negotiated procedure with publication of a contract notice.

There are, however, three basic differences among them:

1. In the context of a competitive dialogue a call for tenders document does not exist as such. In its place a descriptive document is used. In such a document the needs of the contracting authority are laid out along with some general characteristics describing the context of a particular contract. The document describing a competitive dialogue includes a functional program, which identifies "the nature and scale of the needs to satisfy; the legal, economic or technical minimum items that shall necessarily include tenders to be accepted for competitive dialogue along with those criteria referring to the award of a contract".

2. Unlike the case of a restricted procedure, in which a tender is drawn up without prior interaction with a contracting authority, a tender is prepared and delivered after the completion of a dialogue between a contracting authority and the candidate. This is more similar to the case of the negotiated procedures.

3. Given the highly technical nature of the dialogue, the assessment of profiles and suggestions of candidates to tender is performed by a jury of specially qualified experts according to the matter of the contract.

To sum up, the essential difference with respect to other procedures previously described is that in the case of a competitive dialogue the solution to implement is being defined and developed in successive meetings between a contracting authority and the candidates. This is usually due to the particular complexity or uncertainty of the purpose of the contract.

The nature of the competition process implemented under the terms of a competitive dialogue procedure involves personal interaction, not systemic, among the actors involved: a contracting authority and the candidates. This makes the automation of such a process highly unadvisable.
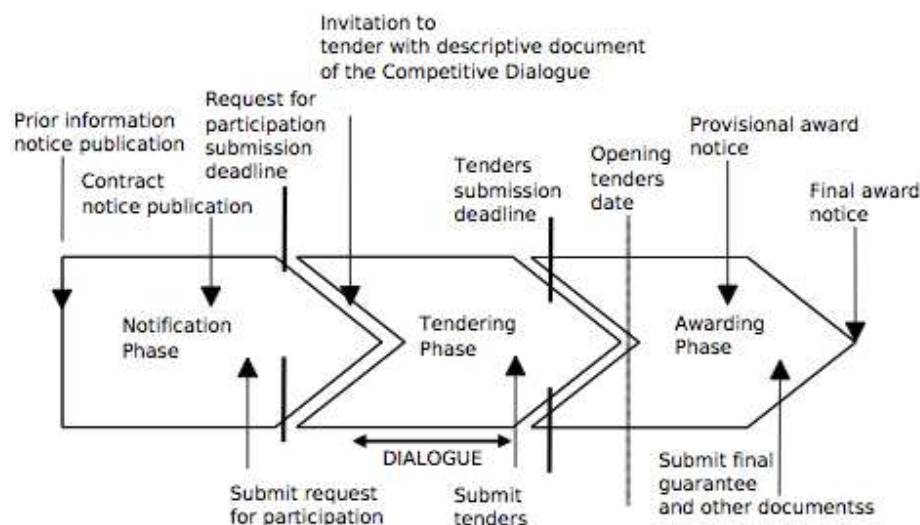
Fig 5 Competitive Dialogue Procedure

3.1.5.1. Notification Phase

The notification phase of competitive dialogue is exactly like that of a restricted procedure.

3.1.5.2. Tendering phase

Those processes consisting of candidates submitting their expressions of interest along with the subsequent preparation of the shortlist of candidates admitted to dialogue are identical to those described for the cases of both restricted procedures and negotiated procedures with publication of a contract notices.

A contracting authority enters into an individual dialogue with those candidates interested in participating. Given the extremely technical nature of the purpose of the contract, a contracting authority may be forced to offer prizes or payments to candidates participating in the dialogue. A special expert jury of the competitive dialogue evaluates the solutions proposed by the participants in the dialogue. Admissible solutions are used in producing a functional program included in the descriptive document.

At the end of the dialogue, a contracting authority invites those candidates remaining to submit a final tender. A contracting authority resends to the candidates a document describing the competitive dialogue along with the functional program and an invitation to tender.

Candidates use this document to prepare their tenders.

Messages used in the context of a competitive dialogue procedure are the following:

    1. Proposed solutions

    2. Invitation to tender

    3. Descriptive document of the competitive dialogue

    4. Tender

CODICE has not created any structured document fitting the message "Proposed solutions". Such a message presents a very low capability of automation since it is the result of a dialogue between the parties in order to reach a final acceptable solution.

The invitation to tender, as in previous cases, is not a structured document either. It is described as an unstructured document that includes the descriptive document.

As for the final tender, this has the same characteristics that any other tender submitted through any other type of procedure.

3.1.5.2. Award Phase

The award phase of a competitive dialogue has the same development of that described in the other individual procurement procedures discussed so far. Thus, the same information items regarding the award of a contract shall be published in the corresponding official journals.

3.2. Rationalisation of procurement

Title II of Book III of the Spanish [LCSP] defines mechanisms for streamlining the technique of public procurement. Contracting authorities have two ways to streamline the procurement:

- Framework agreements
- Dynamic Purchasing Systems

3.2.1. Framework Agreement

A 'framework agreement' is an agreement between one or more contracting authorities and one or more economic operators, which purpose is to establish the terms governing contracts to be awarded during a given period, in particular with regard to price and, where appropriate, the quantity envisaged.

From a global point of view, actors involved in the establishment and implementation of a framework agreement are:

- A contracting authority
- An economic operator and
- A publication body

In a Framework Agreement there are two major processes that occur at different times and frequencies:

1. **Establishment of the Framework Agreement.** This initial phase establishes rules governing the agreement. The major aim of this phase is to identify the set of candidates who may participate in subsequent procurement processes. The terms of the subsequent contracts may not be completely determined when the framework agreement is established. This phase may end with a multiple award, that is, the contract can be awarded to various candidates. Such awarded candidates are the ones who are going to participate in the procurement processes derived from the established framework agreement.

2. **Contracts based on a framework agreement.** For the duration of the framework agreement and approximately with the frequency established in the call for tenders according to which the establishment of the framework agreement was defined, a contracting authority may ask the contractor or contractors to supply services and

goods or to provide an execution of works. For this purpose, a contracting authority may use the following methods:

a.   In case not all the terms are set out in the framework agreement, the award of contracts shall be performed on the basis of calling the parties to re-tender. This new procurement process shall take into account the same previous terms and they shall be accurately reformulated, if necessary [10].

b.   When all of the terms of the contract are known, a specific contract based on the preset Framework Agreement shall be carried out. "In case several candidates had taken part in the Framework Agreement, the award of contracts based on it shall be executed in accordance with the terms thereof. There shall not be necessary to call the parties into a new procurement process." [11]. In such a case, therefore, no new procurement process will take place. A contracting authority is free to choose a candidate elected during the phase of the establishment of the Framework Agreement.
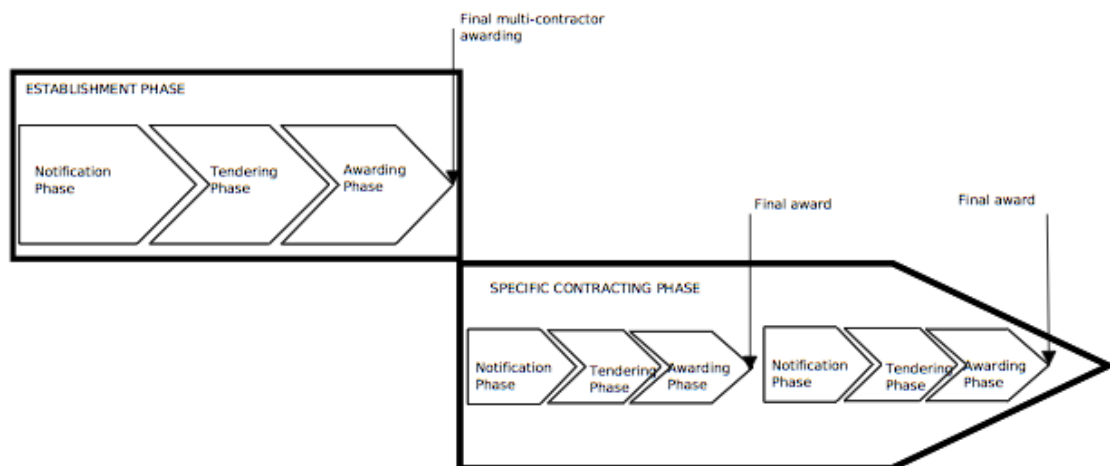
Fig 6 Framework Agreement and related procurement processes derived thereof

Let us first see some details on the establishment of a framework agreement. Next the specific contracting processes will be examined.

3.2.1.1. Establishment of a Framework Agreement

A Framework Agreement can be established by following any of the individual procedures described above. Its ultimate goal is to get a contractual document that details the terms and conditions, which all contractors shall meet. This type of generic contract is formalized individually with each of the selected subcontractors. That is, there will be as many contracts as selected tenderers. This is one of the main features of Framework Agreements in its establishment phase. Multi-award is allowed.

Document models to establish a framework agreement are the same as for any other individual contract. However, they shall state in this case a component that allows identify that the type of procurement is a Framework Agreement, providing an explicit list of characteristics thereof.

3.2.1.1.1. Notification Phase

The establishment of a framework agreement is reported as in any individual procurement procedure. It has to be taken in account that some specific parameters of the framework agreement shall be clearly specified. Such parameters are to be included in the notice and in the call for tenders.

By establishing a framework agreement, the class "Tendering Process" shall:

- Contain a code corresponding to "Establishing a Framework Agreement" (Contracting System Code)
- Handle a complex component (Framework Agreement) used to define specific terms of the agreement:
  - Expected number of operators
  - Maximum number of operators in the framework agreement.
  - Agreement duration [12]
  - Explanation regarding the frequency with which orders will be issued or tendering shall be reopened during the specific tendering phase.
  - Identification of additional requirements that shall be taken into account in subsequent contracts.

In terms of prices, their potentiality shall be made explicit following the establishment of a framework agreement. The following amounts shall be specified in the specification and notice:

- Estimated total value of the framework agreement for its entire duration.
- Average value of specific contracts expected to be awarded during the duration of the framework agreement

Besides these components the rest of the information in contract notices and call for tenders is actually the same as in any other individual contract. However, it shall be taken into account that in the case of establishment of a framework agreement it may be that not all ends of the contract are definitely established.

3.2.1.1.2. Tendering phase

Economic operators generate a tender as they would in any other type of individual contract process. In this case, the goal is not to obtain a direct contract with a contracting authority, but to join the framework agreement as a candidate thereof.

In many cases, framework agreements for the purchase of goods and / or services are established by means of creating a catalogue for a contracting authority based on received tenders. In such cases, it is necessary for a tender document to include all the detailed information requested in the call for tenders, so that it can be incorporated into the catalogue.

In either case, economic operators shall proceed as in any individual contract. They may provide with qualification information, and technical and financial tenders so that a contracting authority can proceed to evaluate and then award the contracts to candidates as it is described in the different sections of chapter 4.

3.2.1.1.3. Award phase

In the award phase, a contracting authority examines the qualification documents and on this basis the candidate economic operators are accepted or rejected as in any other type of procurement procedure.

Based on the received tender documents, a contracting authority performs their analysis and evaluation. The award process may have different objectives depending on the maximum number of operators participating in the framework agreement, or depending on whether the agreement is fully established at this early phase or subsequent contracts have to be awarded reopening to further tendering processes:

1. **A framework agreement is awarded to a single contractor.** In case that the framework agreement is determined to be established with a single operator, his tender shall be used for the setup of a product catalogue that will be used as a basis for a contracting authority to order products or services to this single contractor.

2. **A framework agreement is awarded to several contractors.** In this case the following situations may occur:

   a. A catalogue for subsequent purchases is created. In the event that the terms of the contract are fixed, tenders from various tenderers shall become part of a catalogue of the buyer. This catalogue has to be used by public administrations wishing to purchase goods or services based on that framework agreement.

   b. Create a list of companies participating in the Framework Agreement with reference prices. In case not all terms of the contract are fixed, the list of admitted candidates and initial conditions of their tenders are obtained from the multiple awarding process. In this case, successive phases shall be established among the participants in the Framework Agreement by means of new tendering processes.

The award notice is regulated by the same principles regulating any other individual procurement process.

3.2.1.2. Contracts based on a Framework Agreement

In the specific contracting phase, main terms of the contract, or at least most of them, are already preset in the framework agreement described above. For this reason specific contracting processes are often simpler.

Depending on whether the framework agreement has all its terms defined, two specific types of procurement arise:

1. **Specific procurement based on orders from the catalogue of the buyer.** This procedure is not discussed in CODICE 2 as it is considered that it is not part of the pre-award phase. In fact, these procedures based on catalogue orders have been analyzed in great detail in the CEN WS BII [13] and so they are considered post-award processes. Documents that affect specific procurement based on orders are: catalogue, order, catalogue update, etc. They can be found at http://spec.cenbii.eu/

2. **Procurement process based on a Framework Agreement.** If contract terms are not fully established, a tendering process shall be reopened. This shall start a new process among participants in the Framework Agreement. In this case there is no need for the candidates to re-qualify, which simplifies contract notices, call for tenders and tenders.

In this document only the second case is fully discussed, i.e. the reopening of competition when there are multiple candidates within a framework agreement and not all of its terms are fixed.

3.2.1.2.1. Notification Phase

In the notification phase a contracting authority shall ask, with sufficient time, for the admitted candidates in the agreement to prepare their tenders. These tenders shall be treated confidentially as in any other individual contract.

These invitations to tender, as in restricted or negotiated procedures, shall include specific conditions of the contract in the call for tenders annexed to the invitation. In this call for tenders, the Framework Agreement from which the procurement process derives should be clearly identified.

If the specific contract is subject to harmonized regulation, a contracting authority shall invite all tenderers accepted in the framework agreement. Otherwise, the contracting authority may decide not to invite all members of the framework agreement, but he must invite at least three of them to ensure competition.

Contents of notice documents cannot contradict the fundamentals established in the original framework agreement.

3.2.1.2.2. Tendering phase

In the tendering phase, invited candidates prepare technical and financial proposals. It is not necessary for candidates to present their qualification in subsequent contracts as a contracting authority already assessed their capacity and solvency during the first phase in which the framework agreement was established.

Contents of a tender document are identical to the specified in any other tender in any other individual procedure.

3.2.1.2.3. Award phase

This phase includes awarding a specific contract to a single candidate for the performance of a service, acquisition of goods or performance of works within the scope of a Framework Agreement.

Criteria for awarding of specific contracts are set out in the document establishing the framework agreement.

It is not compulsory for a contracting authority to publish successive awards based on a framework agreement [14] . In case they do, the same procedures may be executed as in any other individual contract.

3.2.2. Dinamyc Purchasing System (DPS)

A DPS [15] is a completely electronic process for purchasing commonly used things, the characteristics of which, as generally available on the market, meet the requirements of a contracting authority. It is limited in duration and open throughout its validity to any economic operator that satisfies the selection criteria and has submitted an indicative tender that complies with the call for tenders.

As in the previous case, in DPS the following subprocesses may be identified:

- Establishment of the DPS and
- Specific contracting process based on DPS
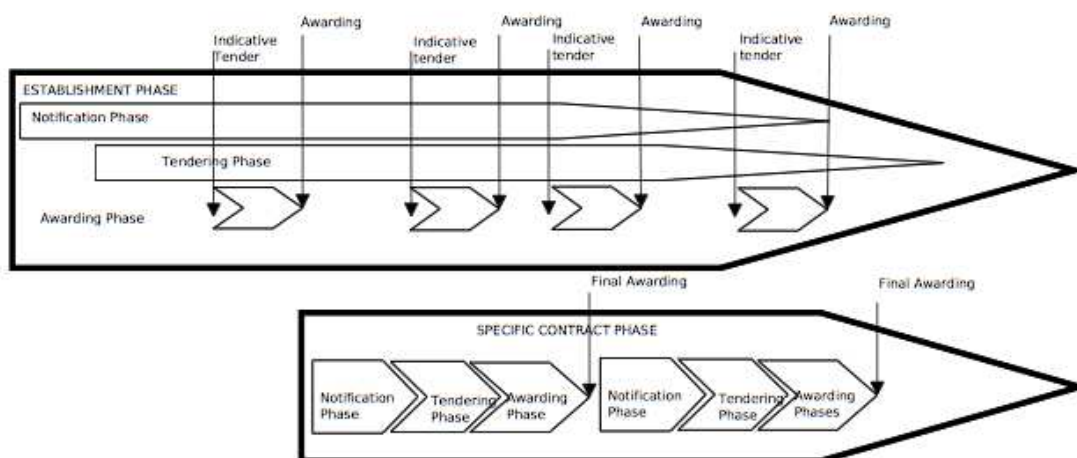
Fig 7 DPS

3.2.2.1. Establishment of a DPS

The establishment phase of a DPS aims to resolve admission or exclusion of candidates to tender for future recurrent contracts. It consists of three subprocesses. Some of them are identical to those already studied for an open procedure [16] :

- Preparation and publication of contract notice, call for tenders and additional documentation that establishes the terms of the DPS.

  These documents shall indicate that they correspond to the establishment of a DPS. Thus, candidate economic operators can prepare indicative tenders.

  Duration of a DPS shall be stated in the call for tenders and corresponding contract notice. Any candidate may submit an indicative tender to become part of the system during the entire period of validity. All of the documentation about the purchasing system shall be available during that time.

- Preparation of an indicative tender.

  Unlike the rest of individual procedures, a tenderer shall present a tender that is only indicative in nature. To prepare such a tender, the candidate uses all documentation provided by a contracting authority (a contract notice, a call for tender and documentation) in order to become part of the system.

- Admission to a DPS.

  A contracting authority evaluates documents submitted by the candidates, their qualification document and indicative tenders. It then decides whether the candidate is allowed to participate in the dynamic system according to the criteria set forth in the call for tenders.

  The application for admission to the DPS shall be resolved within a period not exceeding 15 days.

  In all cases, candidates are notified about their admission or exclusion to the DPS.

A contracting authority shall then invite all candidates admitted to the system to tender for specific contracts.

In the phase of the establishment of the purchasing system, the documents exchanged between main actors are the following:

1. Contract notice, call for tenders and additional documents provided by a contracting authority and published on a buyer profile and in the official journals.

   Contract notice shall specify that it is a process for establishing a DPS.

2. Qualification document with administrative documentation required in the contract notice and in the call for tenders.

3. Indicative tender to be submitted to the contracting authority by the interested candidate to be admitted to the DPS.

4. A notice of admission or exclusion a contracting authority sends to the admitted or excluded candidates to the DPS, respectively.

3.2.2.1.1. Notification Phase

Notification phase announces the establishment of a DPS. It is similar to that of an open procedure. Contract notice and call for tender documents shall specify the following:

- It shall be made clear that it is about establishing a DPS, so the component Iterative Contracting Type (Contracting System Code) within the Tendering Process shall contain the code corresponding to "Establishment of a DPS."

- Duration of the DPS shall be reported in the component Planned Period on the procurement project Class.

Like in Framework Agreement, potential prices shall be reported, specifying the following prices or amounts:

- Estimated total value of the agreement during the duration of the DPS.

- Average value of specific contracts awarded during the expected life of the DPS.

3.2.2.1.2. Tendering phase

The tendering phase consists of submitting qualification documentation and an indicative tender so that a contracting authority can assess the admission or exclusion of economic operators to participate in the dynamic system.

Qualification documents and indicative tenders shall be very structured to allow contracting authorities to proceed electronically with the evaluation of a tenderer and of the indicative tender and meet time deadlines set by law [17].

A candidate can provide documentation of qualification and an indicative tender at any time during the duration of the DPS.

3.2.2.1.2. Award phase

The incorporation of new economic operators to a DPS remains possible for the whole duration of the DPS. During this phase of establishment, a contracting authority shall be able to decide on the admission of a company into a DPS within 15 days, starting at the time when the candidate submits an indicative tender in response to a simplified contract notice.

The notice of inclusion into a DPS is concluded by sending the candidate a notice of admission or exclusion.

3.2.2.2. Specific Contract Process

Once a DPS is established, a contracting authority may start carrying out recurrent specific contracts. The system to specify recurrent purchases follows the same pattern as in an open procedure. It is as follows:

- To start specific contracts, a contracting authority publishes simplified contract notices. Interested candidates who are not yet part of the DPS may submit indicative tenders and so be selected to become part of the system before the deadline for submission of tenders for the specific procurement. Simplified notices always provide a period of time for candidates who are not part of the system to be able to enter a DPS by submitting indicative tenders.

- A contracting authority sends electronic invitations to those candidates who are already part of the system. They are asked to submit specific tenders. These invitations set the characteristics of the acquisition and the final date for receipt of tenders.

- Interested candidates send their tender electronically to the contracting authority. Contracting authority follows award guidelines of the open procedure to proceed to:
  - o Open and evaluate a tender and
  - o Award the contract.

In the specific contract phase, documents exchanged are the same as in any open procedure. However, a simplified notice replaces contract notice and there is no need to resubmit qualification information either:

1. A simplified contract notice published by a contracting authority in its buyer profile or in the official journals;

2. Invitation to submit specific tenders, submitted by a contracting authority to tenderers admitted to the DPS;

3. Provisional award notice published by a contracting authority in its buyer profile and in the official journals;

4. Provisional award notices sent to participants.

5. Final guarantee set by a provisional contractor.

6. Final award notice published in the buyer profile and in official journals.

7. Notices of final award sent to participants.

3.2.2.2.1. Notification Phase

A contracting authority publishes simplified contract notices. The purpose of these simplified notices is to provide the whole process with greater publicity and transparency, allowing other potential candidates to join the DPS. In all cases, enough time is allocated between the publication of a simplified notice and the receipt of tenders. This enables candidates to submit an indicative tender. They can also be invited to the DPS so they will be allowed to submit specific proposals.

A simplified notice and a call for tenders used to advertise and specify the terms of the contract shall include:

- A statement making clear that this is a "Specific Contract Subject to a DPS."

- Number of the original DPS referred to in this contract.

- Product definition and specific contract conditions.

In accordance with the Directive 2004/18/EC, a simplified contract notice of a DPS shall contain the following information:

1. Name, email address and country of a contracting authority.

2. Reference to the publication of notice concerning the establishment of the DPS.

3. E-mail address where call for tenders and additional documents relating to the DPS are available.

4. Purpose of contract: description (by means of CPV codes) of the purpose and price or scope of the contract to be awarded.

5. Deadline for submitting indicative tenders.

In addition to sending a simplified notice, a contracting authority shall invite all members of the DPS to enable them to participate in an specific procurement by means of open procedures. The call for tenders document attached to the invitation shall specify the conditions of award published in the simplified notice.

Unlike an open procedure, in case of recurrent contracting in the context of a DPS, candidates do not have to send back information regarding their qualification since its assessment by the contracting entity is already done in prior phase of establishment of the DPS.

3.2.2.2.2. Tendering phase

In this phase, candidates respond to the invitation with tender containing technical and economical information. Due to their nature, DPSs shall be made electronically. They shall not incorporate subjective criteria among the award criteria. This makes it easier for the award process to be automated.

3.2.2.2.3. Award phase

A contracting authority electronically awards specific contracts on the basis of award criteria set out in the call for tenders terms of the establishment of the DPS as well as those award criteria concretized in the invitation sent during the notification phase of each specific contract.

The award has to be published the same way the award of individual contracts is published. Such award notices may be grouped, and so published, on a quarterly basis.

3.2.3. Central Procurement

Public sector entities can centralize procurement of goods, services or works by means of specialized agencies. These agencies can hire goods, services or works under the same procedures detailed in the previous sections on behalf of contracting authorities attached to a central procurement hub.

Requestor agencies are responsible for funding the project and for receiving and assessing proposals in those cases in which procurement process implies the summoning of the members of the framework agreement to re-tender.

In case of contracts established in the context of a central procurement hub, this particular procurement hub shall be identified in contract notice documents, in official journals and on buyer profile of the contractor. Call for tenders of the contract shall also refer to that particular

procurement hub as being the contracting authority as well as the requestor agency as originator of the purchase.

It is beyond the scope of this document to review the process of request for products, services or works, made by requestor agencies to a central procurement hub.

3.3. Electronic auctions

For the award of a contract in open, restricted or negotiated procedures, a contracting authority may be holding an electronic auction [18]. An electronic auction is a repetitive process involving an electronic device for the presentation of new prices, revised downwards, and/or new values concerning certain elements of tenders, which occurs after an initial full evaluation of tenders, enabling them to be ranked using automatic evaluation methods.

Its aim is that contractors may submit improvements in price or other award criteria for tenders to improve as a whole. Consequently, certain service contracts and certain works contracts having as their subject-matter intellectual performances, such as the design of works, may not be the object of electronic auctions. Thus, only those procurement processes implying objective award criteria or those in which the sole award criterion is the price are eligible for an electronic auction.

In the context of CODICE, e-auctions are only relevant to the contract notice and call for tenders documents, which define the auction process, and its terms and conditions.

For the realization of an electronic auction it is necessary to build an on-line system for the contractors to access and submit their tenders in real time and to see partial results of the auction at any time. Such processes do not require the exchange of messages between heterogeneous information systems. They are usually implemented by accessing a single shared system. This is the reason why CODICE does not review this process and the constituent elements of a tendering.

In a call for tenders document, in case a contracting authority has to use an auction for the awarding of the contract, inside the electronic auction component (ElectronicAuction) the following information items shall be reported:

- Items to which the auction refers (award criteria)

- Limits on the values of the criteria defining the auction

- Textual description of available information to tenderers during the celebration of the auction.

- Textual description of the way in which the auction is to take place.

- Description of conditions under which tenderers may tender in the auction.

- Minimum improvements for each tender at each level of award criteria.

- Textual description of electronic device used and technical specifications of connection.

- URI of the electronic device to be used

Before an electronic auction takes place a contracting authority shall assess tenders received in accordance with the award criteria in order to decide on the admission of tenderers to the auction.

Eligible tenderers are invited to submit new prices revised downwards or new values that improve the supply inside the auction system. This invitation shall be an electronic document but not necessarily a structured document, because the recipient is not an information system but an individual. This is the reason why this document is not modelled within CODICE2.

This invitation document, even though is not modelled within the scope of CODICE, shall contain the following information:

- URL of the electronic device where the auction takes place

- Way to access the electronic device (user / password, electronic certificate, etc.).

- Award criteria and formula to calculate the score

- Date and time of start of the auction

- Date and time of closure or completion of the auction.

- Time since last tender, to declare the auction closure.

- In case of phased auctions, the timetable thereof.

The entire competition process shall be performed through an electronic device established by a contracting authority. Award criteria and scoring formulas shall apply as they have been set forth in advance. Completion of the auction may be established by a date and time of completion, through a period of silence from the last tender. In case of auctions held in phases, dates may be stated on the basis of a calendar.

4. Business processes

This section discusses specific business processes related to the exchange of information among several actors involved in tendering processes.

The objective of this analysis is to identify the benefits of an implementation of automatic mechanisms and the use of electronic exchange of documents for the parties involved in these processes. Its objective is also to identify elements of information required in data models that enable implementation of exchanged documents.

Procurement processes in public administration, have been manual processes only for a long period of time. Attempting to fully digitalize these processes may be too complex or even unwise. However, information systems and automated processes as an aid and support in the generation of information and in decision-support may be of full application. In certain procedures and in particular circumstances, an information system can be useful both for economic operators and for contracting authorities.

This section pursues the analysis of processes in which such a support could be eventually facilitated. Relevant elements of CODICE specifications and its use in these situations by different actors are clearly identified.

4.1. Contracting authority processes

Regardless of the procedure chosen by a contracting authority in executing a contract, a series of processes must be performed.

At a high level, processes to be performed by a contracting authority are the following:

- Publication of a Prior information notice
- Creation of a contract file
- Elaboration of a call for tenders document
- Publicity of a contract
- Admission and exclusion of candidates
- Award of a contract
- Publication of a contract award notice
- Formalization of a contract

The following figure graphically depicts these steps:
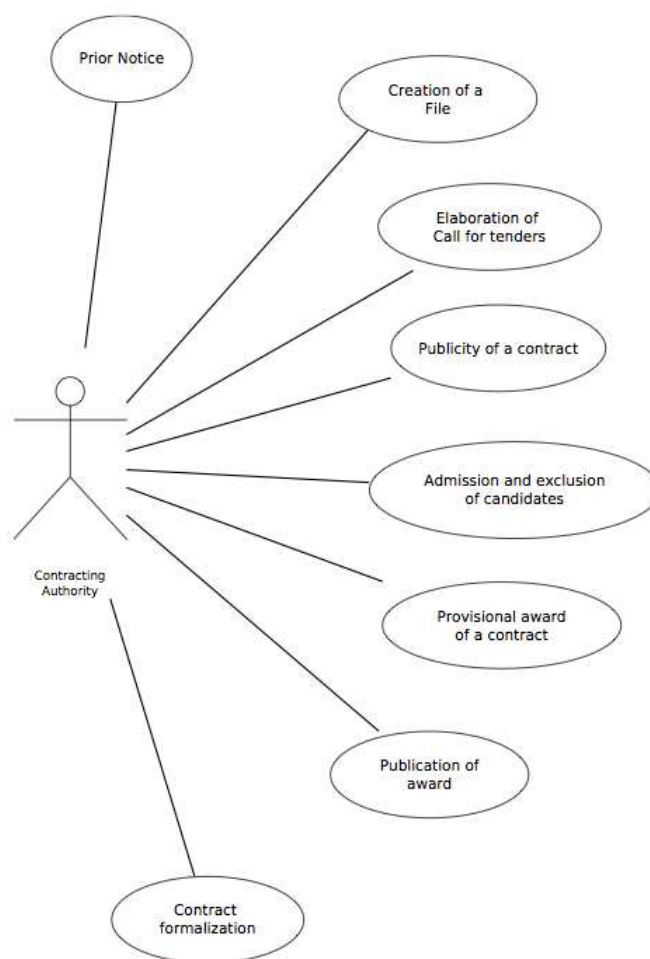
Use Cases 1 Contracting authority

Each of these business processes is detailed below.

4.1.1. Prior Information Notice

4.1.1.1. Introduction

Contracting authorities may publish a prior information notice in order to disclose the contracts that they intend to award over the next twelve months [19]. Prior Notices must be published in the Buyer Profile or in the Official Journal of the European Union as soon as possible. If published in the buyer profile of the contractor, a contracting authority shall notify this to the Official Journal of the European Union and the corresponding Government Gazette (e.g. BOE, in Spain) by electronic means. A Prior Information Notice published in the buyer profile should include the date on which the communication has been sent to the official journals.

The main advantage to publish a prior information notice is the reduction of deadlines. In the case of contracts subject to harmonized regulation that follow an open procedure, deadline for

submission of tenders is at least 52 days [20]. Such term can be reduced to a minimum of 36 (which can reach 22 in justified cases) when a prior notice has been previously submitted.

A Prior Information Notice must have been published before 52 days and within 12 months preceding the date of publication of the contract notice, and must contain all the information detailed below. These deadlines can be reduced 7 additional days in case notices are submitted by electronic means and 5 more if call for tenders and additional documents are available electronically. In short, deadlines for submission of tenders could reach up to be reduced to 24 days.

In case of restricted procedures, reductions for the submission of a Prior Information Notice are the same as those described for an open procedure. However, the generic minimum deadline is 40 days instead of 52.

4.1.1.2. Benefits

Electronic submission of a prior notice in contracts subject to a harmonized regulation implies a direct benefit for a contracting authority in the reduction of deadlines:

Aspect	Beneficiary	Benefit
Reduction of deadlines	Contracting authority	By publishing the information on their intention to establish a procurement process, contracting authority benefits of simplified deadlines for receipt of proposals. If Prior Information Notice is electronic, deadline becomes even shorter.
Prior information	Economic Operator	Economic operators can collect and filter information published on procurement planning and get ready for the creation of tenders in advance.

4.1.1.3. Process

4.1.1.3.1. Context

Categorisation of contexts according to drivers defined in ebXML.

Categories	Description and Values
Business Process	Notice
Product Classification	All kinds of goods and services
Sector Classification	Public procurement in any sector
Geopolitical	Europe
Official restrictions	Directives 2004/17/EC and 2004/18/EC and LCSP (Spain)
Role in Business Process	Publication of a Prior Information Notice

4.1.1.3.2. Scope of the process

Intention to purchase goods, services or works is published by a contracting authority.

4.1.1.3.3. Actors and roles

This process involves two actors who act according to the roles described below.

Actor	Description
Contracting authority	A contracting authority is the legal entity or organization that plans to make acquisitions during the next year.
Publishing body	A publishing body is the entity that publishes the information so it can be accessed by economic operators.

The roles played by these actors in this process are the following:

Role	Description
Source	A contracting authority is acting in this process as a source of a Prior Information Notice.
Publisher	The publication body is the tool that makes public the prior information notice.

4.1.1.3.4. Subprocesses of collaboration

A pre-publication process includes three subprocesses from the point of view of a contracting authority:

- Creation of a Prior Information Notice,
- Publication in the buyer profile and
- Submission to a publishing body for publication.

This process is related to the process of publishing information in a publishing body:
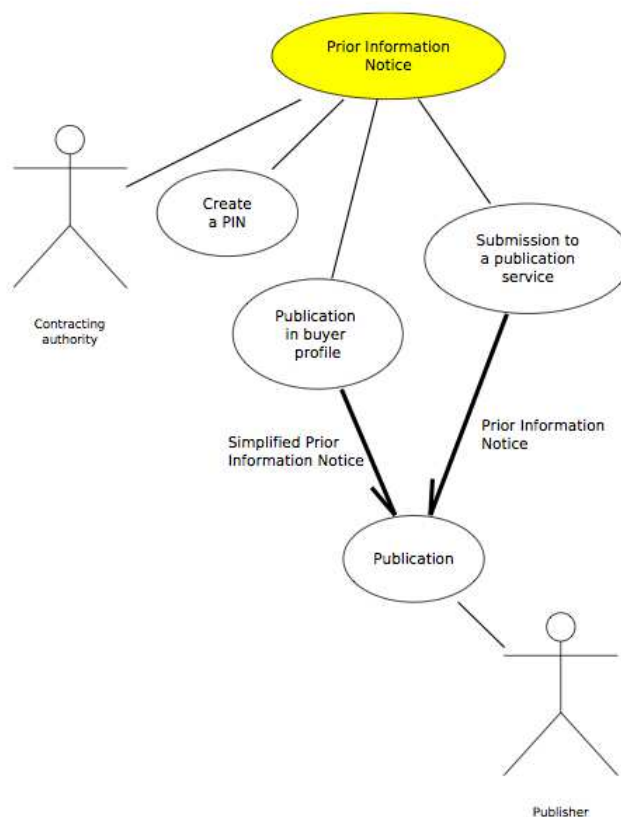
Use Cases 2 Prior Information Notice

1) Creation of a Prior Information Notice

A contracting authority may create a Prior Information Notice to make public their intention to acquire goods, services or works in a period of 12 months to 52 days (for open procedures) before publishing a contract notice. Publication of a Prior Information Notice provides a contracting authority with an advantage in terms of shorter deadlines for receipt of proposals at the time of starting a procurement procedure.

A Prior Information Notice should contain information related to the project so that it can be used as a mechanism for reduction of deadlines. Data to be included in a prior information notice [21] is the following:

- Contracting authority details: Name, address, fax number and email address of a contracting authority and, if different, service from which additional information can be obtained.

- Website where you can get information about the general regulatory framework with regard of taxes, environmental protection, protection of workers and working conditions applicable to the place where the contract has to be implemented.

- If appropriate, indicate that this is a public contract restricted to sheltered workshops or whose implementation is restricted to the framework of sheltered employment programs.

- The nature and scope of the contract, place of implementation and division into lots for works contracts. Estimated cost.

- Nature and quantity or value of products in supply contracts.

- Intended overall procurement in each category of services in services contracts.

- CPV Reference numbers.

- Estimated date for initiating procedures for the award of contract(s).

- If appropriate, indicate that this is a framework agreement.

- Additional information, where appropriate.

- Date of dispatch of notice or of dispatch of a notice of publication of this notice in a buyer profile.

2) Submission to a publication service

A Prior Information Notice with detailed information on the items listed above can be published in the buyer profile or in the OJEU.

In case a Prior Information Notice is only published in the OJEU, or in a Buyer Profile hosted by an external information system (such as the National Procurement Platform in Spain) the generated document with information detailed in the above section shall be submitted to a publication body.

3) Publication in the Buyer Profile

A contracting authority may also choose to publish a prior information notice on the contractor's own profile, submitting a notice to official journals - such as the Official Journal of the European Union or the corresponding Government Gazette – using a simplified Prior Information Notice as set out in Directive 2004/18/EC.

Data included in this simplified Prior Information Notice are the following:

- Contracting authority country

- Contracting authority name

- Internet address of the "buyer profile" (URL)

- CPV Reference Numbers

Once created, a Prior Information Notice or a simplified Prior Information Notice shall be submitted to the corresponding publication body for publication.

4.1.1.4. Documents

4.1.1.4.1. Prior Information Notice

Prior Information Notice document model contains all components that may be reported in a prior information notice.

There are two possible uses of a Prior Notice Information: with all available information for the publication whether in the buyer profile or in the OJEU, or with a simplified set of information to generate a notice of publicacion in the buyer profile to report the OJEU.

In both cases, currently the OJEU does not accept CODICE as a model of information. This is the reason why in both cases a transformation of the CODICE PIN model into a modelled document recognized by the OJEU must be performed.

4.1.1.5. Process Detail
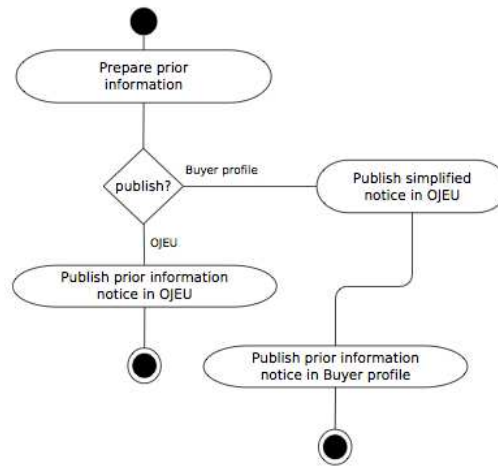
Activity Diagram 1 Publication of a Prior Information Notice

Activity	Description
Prepare Prior Information	Planning the annual budget and contracts to be made for the next annual period. For each contract to be implemented during the planned period, information on the contract has to be collected; its division into lots, CPV, implementation place and provisional implementation dates
Publication of a simplified Notice	In case a prior notice has to be published in a buyer profile, prepare a simplified Prior Information Notice including CPV and Internet address of the buyer profile for submission to a publication service. Submit a simplified Prior Information Notice save the date of the simplified notice to report it in a prior notice to be published in the buyer profile.
Publication of a Prior Information Notice in the OJEU or in a Buyer	In case a Prior Information Notice has to be published by a contracting authority in the OJEU or in a buyer profile, a contracting authority creates a Prior Information Notice using information gathered in the first step and they submit it to the

Profile	corresponding publication service.
	If the publication is made in the buyer profile, a Prior Information Notice must include the date of dispatch to OJEU of the cosrresponding simplified Prior Information Notice.

4.1.2. Creation of a file

4.1.2.1. Introduction

Creation of a contract file in Spain is a task that involves the exchange of documents between contracting authority and Intervención General de la Administración del Estado. These exchanges are beyond the scope of CODICE and therefore they will not be treated in this analysis document.

It is relevant to highlight the type of processing when it comes the time to create a tendering file. In general, tendering files are going to be processed in the regular manner described below.

Regular Processing

A contracting authority shall:

- Motivate the need for a contract

- Create a file referring to the whole subject of the contract

- Add administrative terms and conditions and technical specifications (see section on the Elaboration of call for tenders below) or a descriptive document of competitive dialogue in the file.

- Add existence of credit certificate and a controlled intervention [22] .

- Justify the choice of procedure and award criteria.

- Approve the record and approve the expenditure.

In minor contracts it is only required to record the approval of expenditures and invoice in the file, plus the budget in case of a minor contract of works.

Abbreviated Processing

An emergency procedure allows for a contracting authority to:

- Reduce deadlines [23]

- Make it possible for the implementation of a contract to begin before formalization thereof, whenever a final guarantee has been fully set up.

An emergency procedure is a unique system that is used only in cases of catastrophic events or to address situations of grave danger or affecting national security. In this type of procedure, a contracting authority does not need to obtain an administrative file. Proceedings and paperwork shall be completed upon final execution of actions performed under an exception regime.

CODICE2

In addition, in the call for tenders document (Call For Tenders) the annual report and budgetary applications of the annual budget of the project may be reported. To describe the annuities of a project the following information shall be provided:

- Amount of annuity

- Year

- Associated Budget Account

4.1.3. Elaboration of a Call For Tenders document

4.1.3.1. Introduction

Elaboration of electronic call for tender documents is a key factor if you intend to promote electronic tendering processes. To date, specific administrative clauses and technical requisites have been described in unstructured documents on paper.

Electronic tendering cannot consist only in the digitalization of these documents, changing their support, from paper to electronic. This would effectively accelerate the transmission of documents between the parties. However it requires a conventional treatment of information, which makes people responsible for reading and processing printed documents. This ends up diminishing the advantages and benefits to be gained with electronic procedures.

The aim of CODICE is to endow call for tender documents with a structure to enable automation of certain processes, both in business information systems of an economic operator and in those of a contracting authority. Thus, involvement of people may be focused on those stages of the process which are unable to be automated.

To ensure that economic operators submit their qualification documents and tenders in electronic format, it is imperative that call for tender documents published by contracting authorities are also electronic and that the systemic interpretation of these documents provides support for the creation of Qualification and Tender electronic documents.

A procurement file must include specific administrative clauses and technical specifications to govern the contract. The process of drawing up the call for tenders is not a collaborative process. It only involves a contracting authority. However the content of a call for tenders document in electronic format is essential to allow for an economic operator to generate relevant tender documents.

4.1.3.2. Benefits

Aspect	Beneficiary	Benefit
Speeding up the publication	Contracting authority	Automatic publishing of a call for tenders document in official journals and in a buyer profile.
Prior information	Contracting authority	Reduction of deadlines in publishing the specification document electronically.
Support in the generation of tenders	Economic Operator	Generation of tenders based on a call for tenders document.

4.1.3.3. Process

4.1.3.3.1. Context

Categorisation of contexts according to drivers defined in ebXML.

Categories	Description and Values
Business Process	Procurement (Tender)
Product Classification	All kinds of goods and services
Sector Classification	Public procurement in any sector
Geopolitical	Europe
Official Restrictions	Directives 2004/17/EC and 2004/18/EC and LCSP (Spain)
Role in Business Process	Establishment of conditions of tendering and purpose of a contract

4.1.3.3.2. Scope of the process

Generation of a structured document with tender conditions and a description of the purpose of the contract.

4.1.3.3.3. Actors and roles

A contracting authority is the only actor in the process of elaborating a call for tenders document.

Actor	Description
Contracting authority	A contracting authority is the legal entity or organization that initiates a process of acquisition.

The role played is:

Role	Description
Buyer	A contracting authority is acting in this process as a buyer that defines the conditions of the contract.

4.1.3.4. Documents

4.1.3.4.1. Call For Tenders

A Call For Tenders document contains all information related to a tender, both the purpose of the contract and tender conditions.

Such a document is structured so as to allow for a contracting authority to report some metadata and to append unstructured documents regarding technical requirements and administrative clauses. This use of a Call for Tenders document allows for an evolution of the current situation where most of the information regarding the tender circulates on paper support.

The design of a Call for Tenders document must be able to create highly structured documents where attachment of unstructured documents to specify details of a tendering process is unnecessary.

Main components of the call for tenders document are the following:

- Procedure metadata such as the contract file number or the date of approval of the file.

- Unstructured annexes such as technical specifications and administrative clauses. These attachments may contain information that is currently being used for defining a tendering process on paper. The objective of CODICE is for contracting authorities to conceive CODICE modelled documents not as being mere recipients for unstructured documents but as fully structured modelled documents allowing for economic operators to generate tenders.

- Other attachments, either embedded or referenced required to prepare tenders. These annexes may include maps, photographs, or computer applications.

- Buyer Information:
  - A contracting authority
  - The original purchaser, only to be used when the tendering process is conducted through a purchasing central or hub. In this case a contracting authority is an actual purchasing hub while the original purchaser is a requestor.

- Recipient data, to specify information about the recipient of a call for tenders document. It can be an information service, such as a portal or a publication or an economic operator in case a call for tenders document is sent attached to an invitation to tender.

- Tender conditions. With information for the generation of qualification and tender documents.

- Specification of the tendering process with information about the procedure used and the dates and relevant deadlines within it.

- Specification of the purpose of a contract.

- Specification of the lots. Each lot has a lot identifier and an association with a project where the purpose of each lot, amounts and other association with specific conditions that apply to a lot are specified.

In the structure of the call for tenders, some components require more detail. The conditions of tender should be provided with a complex structure. Its most important elements are:

- Elements to identify the type of contract awarding system

- Elements to identify whether variants can be offered.

- Description of the formula for price revision

- Specification of types of guarantee and amounts or percentages required.

- References to environmental, employment, taxation and public procurement legislation applicable.

- Information about the documents that are considered as part of the contract.

- Period of validity of the guarantee of the project deliverables

- Information about requirements for economic operators to comply with. According to requirements expressed in the call for tenders document, an economic operator shall be able to decide whether they can participate in the process and generate the qualification document required for a contracting authority to evaluate the process of admission and exclusion of candidates [24] .

- Information about allowed subcontract conditions.

- Conditions for the preparation of tenders. Description of the tender documents that the tenderer shall prepare, and identification of documents to be incorporated into each of the envelopes or tender documents. [25]

- Identification of specific requirements to be met during the implementation of a contract.

- Awarding conditions. It is compulsory to identify the award criteria and to proceed thereafter to the management and award of tenders [26]. Upon creation of a tender, an economic operator shall refer to the award criteria defined in the call for tenders document to create a response that allows subsequent systemic analysis.

- Information about other parties involved in the tendering process, such as an additional information provider or a receiver of tenders. These intervening parties should be reported only if they are different from a contracting authority.

- Periods of validity of a tender and acceptance of a contract.

- Information about conditions for lodging appeals, specifying the place and the parties responsible for their receipt and resolution.

- Information about the languages in which a tender may be submitted.

- Information about budget items that support a project.

A procurement procedure shall be provided with the following components:

- Codes that identify the procedure, urgency, processing, way to prepare and submit tenders. Also, such codes may be used to report whether they are part of a repetitive contract.

- Definition of whether to conduct an electronic auction and motivation.

- In negotiated procedures, description of the areas of negotiation and an indicator of whether a reduction of candidates will take place during the process.

- Periods of availability of a call for tenders document, a closing date for receipt of tenders or deadline for receipt of invitations to tender.

- References to previous publications.

- Specific information for different types of procedures:
    - Justification for negotiated procedures

o Establishment of a short list of candidates in case of restricted or negotiated procedures.

o Specific information for the establishment of framework agreements.

- Information about the tender disclosure events and qualification documents.

The following elements shall be detailed in order to establish the characteristics of the purpose of a contract:

- Description of the purpose of a contract.

- Type of contract (works, supplies or services)

- Information on the budget, estimated contract value, maximum value.

- Information on the classification of the contract. In public procurement at least the Common Procurement Vocabulary must be reported.

- Location, where project will take place.

- Planning period for its implementation.

- Possible contract extensions or options.

- Lines specifying the purpose of a contract. In these lines, deliverables for the project or for each lot are clearly detailed. They include the following information:

   o Line identifier

   o Quantities, either a fixed amount, minimum or maximum.

   o Maximum amount per line, both with and without taxes.

   o Period for delivery of line items.

   o Prices per location and amount

   o Period of validity of the guarantee

   o Description of items. Details of the item being purchased. A product can be specified by its attributes. Then ranges for these attributes can be established.

   o To enable component lists describing elements of other elements, a system is implemented allowing to describe lines as a recursive decomposition of other lines.

In the neutral model defined in the CODICE spreadsheet, details of all components and properties of different classes outlined in this document analysis may be fully appreciated.

4.1.4. Publicity on a Contract

4.1.4.1. Introduction

The principles of transparency and equal opportunities set out in European procurement Directives and their transposition into Spanish law require that contracting authorities publicize their procurement projects.

Tendering processes have to be announced in the Spanish Official State Bulletin (BOE) or in official or autonomous gazettes or journals except for certain negotiated procedures. When, due to its amount, contracts are subject to harmonized regulation, it is mandatory for it to be published in the OJEU [27] . Nevertheless, it is possible that a contracting authority decides to publish a contract in the OJEU even though it is below EU threshold.

When a contracting authority has advertised a tendering process in the OJEU, this publication must precede any other, and the other ads must refer to that publication.

It is an advantage to have a range of advertising platforms where contracts may be advertised. It is beneficial especially for economic operators who may obtain procurement information from various journals and Internet portals. However, it is necessary that the information in advertisements published in various media is consistent, that is, publication of contradictory notices in different media of publication has to be avoided.

Creation of a single model for a Contract Notice prevents any possible errors that could be caused by manual generation of notices in different media. If a contracting authority had to access the service of publication of OJEU (SIMAP) and BOE to manually enter the data of the tendering process it would be easy to introduce inconsistencies between both ads.

With the creation of a modelled contract notice, it is possible for a procurement system of a contracting authority, or in the Spanish case, the National Procurement Platform, to centralize the transfer of structured documents to various journals for publication.

The maximum benefit would be obtained if publication entities allowed for contract notices to be submitted in a native CODICE format. However it is possible to set up transformation templates that allow a systemic collaboration.

4.1.4.2. Benefits

Aspect	Beneficiary	Benefit
Transparency	Economic Operator	One of the main beneficiaries of making it easier for tenders to be advertised is the economic operator. They get more information that they can filter, thus obtaining information about contracts on which they may be interested in a fast and agile way.
Increased consistency	Contracting authority	Contracting authorities have a single model for building notices. By using interfaces and processors interaction with various government agencies may be established in a systemic way, thus creating instances with the same content, regardless of the systems and expected format in the receiver part.
Publication Process Automation	Publication Body	A publisher can set filters and rules for validation of instances of advertisements, providing prepublication classification and management.

4.1.4.3. Process

4.1.4.3.1. Context

Categorisation of contexts according to drivers defined in ebXML.

Categories	Description and Values
Business Process	Notice
Product Classification	All kinds of goods and services
Sector Classification	Public procurement in any sector
Geopolitical	Europe
Official Restrictions	Directives 2004/17/EC and 2004/18/EC and LCSP (Spain)
Role in Business Process	Publication of notice

4.1.4.3.2. Scope of the process

Publication of characteristics and conditions for the award of a contract by a contracting authority.

4.1.4.3.3. Actors and roles

The process involves two actors, who act with the roles described below.

Actor	Description
Contracting authority	A contracting authority is the legal entity or organization that initiates a process of acquisition.
Publication body	A publication body is the entity that publishes the information so it can be accessed by economic operators.

The roles played by these actors in this process are:

Role	Description
Source	A contracting authority is acting in this process as a source of information reported in a Contract Notice.
Publisher	The publication body is the tool that makes the contract notice public.

4.1.4.3.4. Subprocesses of collaboration

The process of publishing a contract notice contains three subprocesses from the point of view of a contracting authority:

- Creation of a contract notice
- Publication in the buyer profile and
- Submission to publishing body for publication.
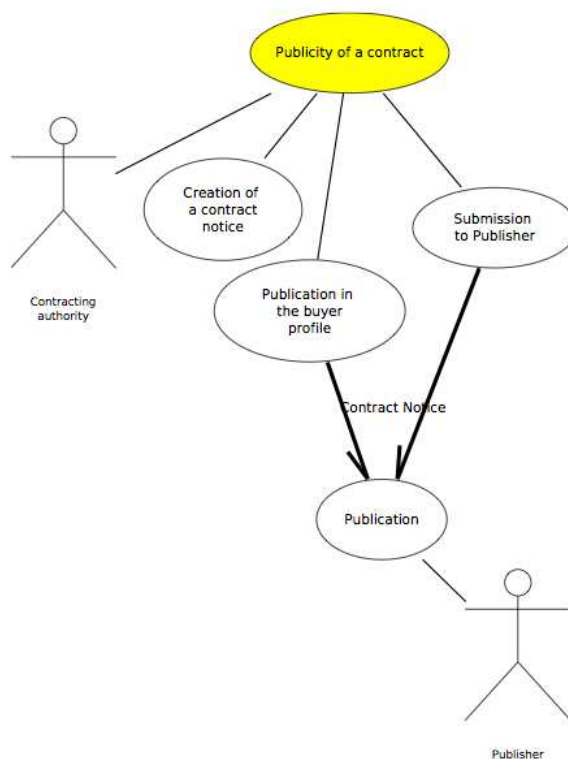
Use Cases 3 Contract Advertisement

This process is related to the process of publishing information by a Publication Body:

1) Creation of a contract notice

Contract notices should contain sufficient information about the proposed acquisition to ensure that economic operators can choose to participate in the process. Data to be included in a contract notice [28] is the following:

- Contracting authority details

- Special execution conditions of the contract, if any.

- Awarding procedure chosen, and if so, whether it is part of a repetitive system.

- Place of implementation / performance of the work or provision of services.

- Nature, scope and general purpose of the contract. References to the common nomenclature CPV [29]

- In case of framework agreements a total value and the value and duration and frequency of subsequent contracts

- Professional qualifications required for tenderers

- Possibility of tendering for one or more lots in case the contract is subdivided into lots.

- Deadlines for project completion or duration of the contract.

- Admission or prohibition of variants

- Deadlines for submitting applications for participation and proposals or indicative tenders

- Language of proposals

- Description of tender disclosure events.

- Required deposits and guarantees.

- Financing and payment arrangements

- Legal form to be taken by the tenderers awarded the contract.

- Information about exclusion and selection criteria of economic operators to proceed to admission or exclusion, based on financial and economic or professional and technical capacities.

- In a framework agreement, specify information about maximum number of economic operators and duration of the framework agreement.

- Indication that a progressive reduction in the number of candidates in a negotiated procedure or competitive dialogue shall be undertaken.

- Period during which the tenderer must maintain their tender

- Previously selected tenderers, in case of negotiated procedures.

- Awarding Criteria.

- Information relating appeal and mediation and the parties involved in management thereof.

- Release dates of relevant documents such as a prior information notice.

- Date of dispatch of a notice

2) Publication in the Official Journal of the European Union

Should a contract be subject to harmonized regulation, a notice shall be published in the OJEU with the information detailed in the preceding section, before being published in any other journal [30] .

The OJEU should provide an electronic response to enable a contracting authority to know if a publication of a notice has been successful or an error has occurred that has prevented its publication. In the first case, a contracting authority may proceed with publication of the notice in other official journals or in the buyer profile. In case of error, it should be corrected and a contracting authority should retry publication in the OJEU.

In the modelling process, works developed in the CEN WS BII [31] have modelled such documents of response. Nevertheless, they are not included in CODICE 2. They are already defined in UBL 2.0.

Currently OJEU has its own XML schemas for publication of notices and there exist transformations that allow for the generation of documents conforming to these schemes from CODICE documents.

3) Publication in other journals or in a Buyer Profile

A contracting authority may also choose to give more publicity to the tendering process by publishing the notice in their own buyer profile and other official publications - for example the Spanish Official State Bulletin (BOE) or other provincial or autonomous official journals.

It is important to note that the contents of advertisements published in various journals should be consistent with each other. Moreover, in case of a contract subject to harmonized regulation, a notice must be published in the OJEU in the first place.

4.1.4.4. Documents

4.1.4.4.1. Contract Notice

Regardless of the tendering procedure chosen by a contracting authority, a Contract Notice document shall be created containing all data elements described in the previous chapter. The structure of a CODICE Contract Notice document is very similar to a Call For Tenders document, described in Section 4.1.3.

The purpose of a Contract Notice is basically to ensure publication of a tender in different media. Structured information allows to perform advanced searches on tenders using Internet portals such as the National Procurement Platform in Spain or the creation of RSS feeds for economic operators to subscribe in order to be provided with information on selling opportunities that better fit their interests.

A Contract Notice document structure is defined in detail in the spreadsheet attached to this document.

4.1.4.5. Process Detail

The detail of the process leading to a publication of a contract notice is as follows.
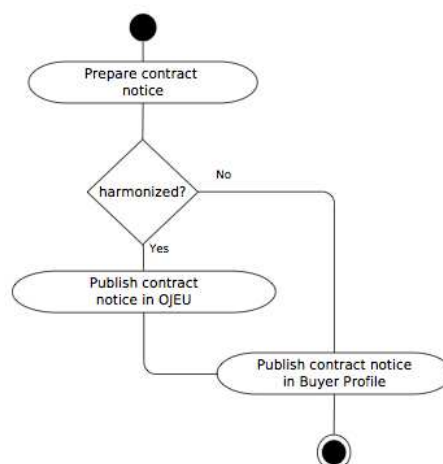
Activity Diagram 2 Advertisement of a contract

Activity	Description
Prepare a contract notice	A contracting authority generates a file, chooses the procurement procedure, and establishes the purpose of the contract, its maximum price and all of necessary elements set out in Directive 2004/18 /EC. With all the information regarding the procedure, a Contract Notice document is generated.
Publication of a notice in the OJEU	If the contract is subject to harmonized regulation, a contracting authority submits a Contract Notice document to the OJEU for publication. This submission process may require a transformation of the document CODICE into the model established by the OJEU. Thus, the system of receipt of the Official Journal of the European Union will be able to process the document systemically. The OJEU must respond with a publication of the notice or a rejection thereof due to error so that a contracting authority may continue the publication process.
Publication in the Official State Bulletin, in other official journals or in a Buyer Profile	Once published in the OJEU, a contracting authority may publish the contract notice in other journals or in their own online Buyer profile, for example through the National Procurement Platform.

4.1.5. Admission and Exclusion of candidates

4.1.5.1. Introduction

Book I, Title II, Chapter II of the Spanish Law on Public Sector Contracts (LCSP) [32] states the principles of suitability for public sector contracts and how to establish the ability for economic operators who wish to participate in a procurement process.

Principles of suitability to engage with public sector contracts can be set as follows:

- Special rules for capacity. Economic operators can only be awarded contracts whose purpose falls within the scope of their aims, objects or areas of activity. In case of temporary joint ventures among economic operators, they must establish the ability of all participants in the joint venture as well as their willingness to set up as joint venture in case of becoming a winning party of a tendering process.

- Economic operators must be legally capable of entering into a tendering process [33]

- They must demonstrate their capabilities through the accreditation of certain criteria of technical or economic solvency [34]

- Instead of solvency criteria, in some cases they can demonstrate their capacity if they provide an adequate business classification - only in case they are Spanish economic operators. [35]

To demonstrate such capacities, an economic operator must provide documents that will be evaluated in the process of admission and exclusion of candidates. Supporting documents are defined in the Section 2 Proof of ability to enter into a contract [LCSP].

Open Procedures

In open procedures an economic operator must provide information, skills and accreditation to a contracting authority along with documents conforming a tender.

In conventional procedures on paper, this information is sent in separate envelopes so that the jury may conduct an ordered opening of the envelopes.

The first envelope to be opened in this type of procedure is the qualification document (administrative documentation). It allows the jury to decide whether to admit or exclude the candidate to participate in an award process on the ground of the degree of suitability to criteria established for the selection of candidates. Only technical and economic proposals of admitted candidates shall be opened.

Restricted and negotiated procedures and competitive dialogues

In other types of procedures (restricted, negotiated, competitive dialogue), a process of admission or exclusion takes place also, but it is prior to the creation of the tender by the economic operator.

In these cases, economic operators request participation in the process by providing information on their qualification.

In this first stage of the procedure, a contracting authority opens applications with qualification information and evidence related to a candidate. They evaluate them consequently. Upon evaluation, those candidates meeting selection criteria described in tendering conditions are invited to tender.

Once invited, candidates can prepare their tenders and submit them to a contracting authority for further evaluation and award.

The aim envisaged with automation of this process is that support systems of contracting authorities can facilitate the task of verifying compliance with the criteria for selecting candidates and even to suggest lists of accepted and rejected candidates.

A number of requirements have to be met before such processes of admission and exclusion of candidates by a contracting authority can be fully automated.

- Call for tenders and qualification documents should share their semantics (e.g. in the form of lists of codes). It is necessary that both contracting authorities and economic operators understand the same concepts when referring to:
  - Solvency Criteria
  - Capacities (economic / technical)
  - Evidences and / or qualifications
- Structure exclusion and selection criteria of candidates in the electronic call for tenders document. Such a structure may have several implications:
  - A need to identify criteria that an economic operator must meet. Therefore it is necessary to use codes defined in the previous section.

o It is advisable to suggest evidence and / or qualifications for specified criteria in an encrypted form. This makes it easier for the creation of a qualification document about an economic operator.

- A structured qualification document (Tenderer Qualification) allows economic operators to declare their capabilities in accordance with criteria required in the call for tenders. To facilitate relationship between capabilities of an economic operator and required criteria, it is necessary that:

  o Codes referred to capacities match those of evaluation criteria set forth in the call for tenders.

- Link capacities declared by the tenderers in a qualification document with the respective evidence or credentials.

  o A mechanism should be established to identify evidences for each of the capabilities of an economic operator. Accreditations may be embedded in the document or be referenced externally via a URL.
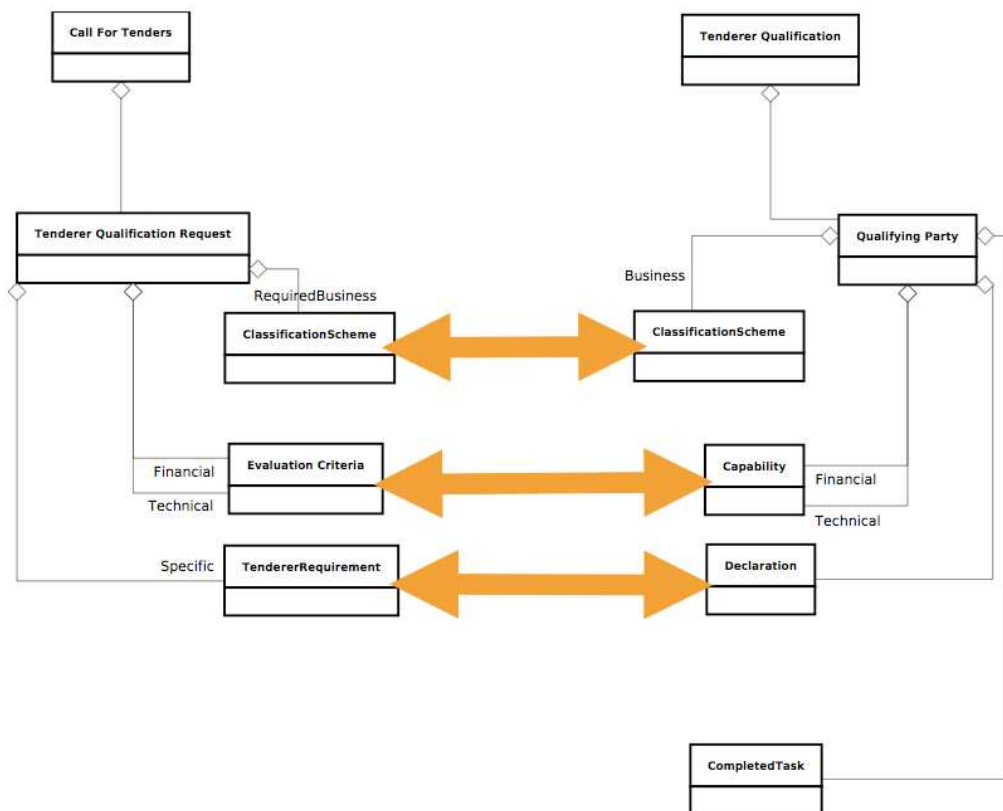
Figure 1 Relationship between CallForTenders and TendererQualification

4.1.5.2. Benefits

Modelling and characterization of elements related to exclusion and solvency criteria provide the following benefits to electronic procurement processes:

Aspect	Beneficiary	Benefit
Systematic creation of a qualification document	Economic Operator	Upon availability of assessment criteria and evidence encoded, an economic operator may have support systems for the creation of qualification documents.
Automation of the verification process	Contracting authority	Capabilities are structured in the qualification document. Thus, automatic systems may be set to compare them with required criteria.

4.1.5.3. Process

4.1.5.3.1. Context

Categorisation of contexts according to drivers defined in ebXML.

Categories	Description and Values
Business Process	Procurement (Tender)
Product Classification	All kinds of goods and services
Sector Classification	Public procurement in any sector
Geopolitical	Europe
Official Restrictions	Directives 2004/17/EC and 2004/18/EC and LCSP (Spain)
Role in Business Process	Admission or exclusion of economic operators interested in participating in a tendering process.

4.1.5.3.2. Scope of the process

Admission or exclusion of economic operators interested in participating in a tendering process.

4.1.5.3.3. Actors and roles

A process of admission and exclusion involves two players who act with the roles described below.

Actor	Description
Contracting authority	A contracting authority is the legal entity or organization seeking to acquire goods, services or works in the tendering process. A contracting authority can be the beneficiary of the acquisition or be acting on behalf of another entity or organization.
Economic Operator	An economic operator is a potential supplier of a contracting authority. Their role varies depending on the stage of a tendering process. An economic operator may be in turn composed of several associated legal entities to participate in an award process.

The roles played by these actors in this process are the following:

Role	Description

Reviewer	A contracting authority is acting in this process as an evaluator or reviewer. a contracting authority shall be responsible for establishing the criteria for admission and exclusion of economic operators and to evaluate their qualifications in order to admit or exclude them from a tendering process.
Interested party or Tenderer	An economic operator acts in the role of interested party or tenderer. They submit information regarding their qualification, either together with a Tender or at an earlier stage to apply for participation in the process.

4.1.5.3.4. Subprocesses of collaboration

The admission and exclusion of candidates involves a number of subprocesses.

- Verification of existence of supporting material

  First, it is verified that an economic operator has not forgotten to prove compliance with any of the requirements in the call for tenders. If an economic operator has not reported some of the requirements defined in the call for tenders, a contracting authority may request an economic operator to correct the error, stating compliance and providing appropriate evidence.

- Examination of provided evidences

  If the offer meets all requirements for admission, a contracting authority may proceed to verify the documents and evidences. It has to be taken into account that some call for tenders are only proved after a provisional award.

- Verification of provisional guarantee

  If indicated in the call for tenders, participants must establish the existence of a guarantee in favour of the contracting authority.

- Notice of correction

  In case the tenderer does not meet some of the selection or admission criteria established in the call for tenders, a contracting authority shall notify the economic operator so as to give them an opportunity to correct the defects in the documentation. This process is not modelled within CODICE, considering that modelling of this process by means of structured documents would not produce any added value in the electronic procurement process.

- Invitation to tender

  In case of a negotiated or restricted procedure, or a competitive dialogue, a contracting authority may invite admitted economic operators by sending them an unstructured document to which CODICE structured call for tenders document should be attached.

Details of the processes related to admission and exclusion of candidates:
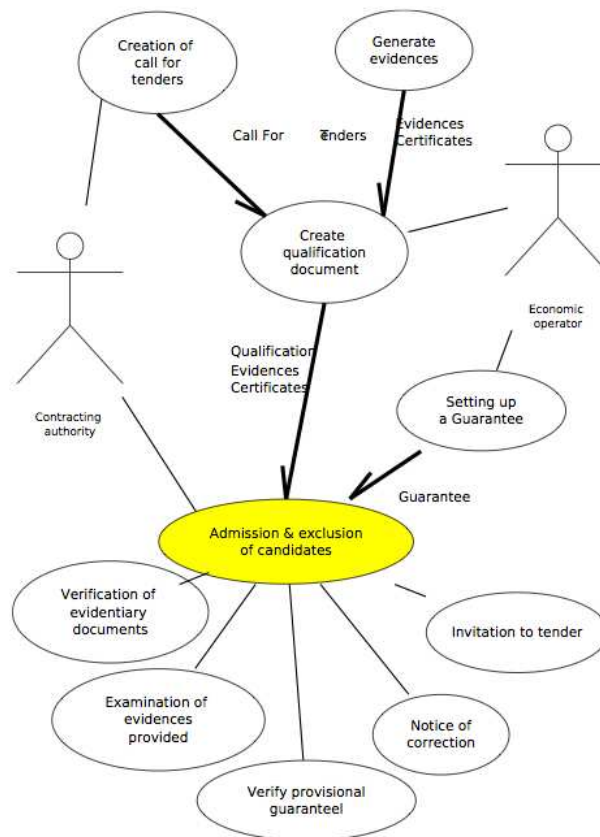
Use Cases 4 Admission and exclusion of candidates

1) Verification of existence of evidentiary components

In the context of electronic procurement based in CODICE, an economic operator submits administrative documentation through a document which includes required statements of responsibility. Accreditation of compliance with each of the eligibility criteria set out in the call for tenders is also provided in cases where a signed declaration is not enough accreditation.

A first step upon opening of qualification documents submitted by an economic operator is to determine whether a tenderer has included all statements of responsibility and supporting material that fulfill all exclusion and selection criteria required in the call for tenders.

For this purpose, qualification documents should contain known structures that enable an economic operator to declare compliance with these selection criteria. These structures may point in turn to electronic supporting documents or evidences for a subsequent inspection of such an accreditation.

If the qualification document does not contain all statements of responsibility required in the call for tenders, a contracting authority may request an economic operator to correct the problem through a request of correction. The latter is an unstructured document.

2) Examination of provided evidences

For some of the criteria with which an economic operator states compliance, it is necessary to perform a verification of provided evidences. A contracting authority must verify that the statements contained in a qualification document are actually true. To this end, a contracting authority shall verify that supporting documents attached to a qualification document are present and that its contents matches the information declared in the structured components of the qualification document.

Not all criteria require the submission of documentary evidence in the tendering phase. Sometimes it may suffice with a signed statement of responsibility whose evidence must be provided only if the candidate is awarded. In such a case, an economic operator may merely state that they satisfy a particular requirement. Evidence shall be provided in a posterior phase in case they become a provisional awarded.

This second phase of evaluation of qualification documents is necessary due to the variety and difference in format and support for documents that may be involved in a tendering process. This makes it necessary for a standardized document to be created whose content is verified in the previous step, followed by a more "manual" verification of the provided documentation.

Many times, compliance with multiple exclusion criteria and soundness may be proved by using a single document, such as a certificate of the Spanish Official Registry of Tenderers and Contractor Companies, as provided in [LCSP] [36]

Evidences provided can belong to different types:

1. Certificates

2. Registers

3. Other documents

Sometimes evidences may be verified automatically. In other cases, evidences may include unstructured documents or scanned images of paper documents that require a manual processing.

If structured documents can be used as evidence of the capacity to act, legal capacity to enter into a contract and solvency of economic operators, support systems for electronic procurement can offer better support and be more efficient.

Also in this case a contracting authority may request the correction of an error by an economic operator.

ROLECE Certificate

A ROLECE certificate is a document whose main purpose is to cover the need for a structured evidence. It is a structured document that proves the identity of economic operators, their capacity to act, their legal ability to enter into a contract, their business classification and their technical and economic solvency.

In creating a qualification document an economic operator may establish an exchange with ROLECE so as for the former to obtain a certificate to be included as a proof.

CODICE do not cover business processes related to registration of the business information in the Official Registry of Tenderers and Contractors, or the process of update or verification of such information.

3) Verification of a provisional guarantee

Different alternatives available to the tenderer to provide a provisional guarantee are detailed in the processes of an economic operator (paragraph 4.2.4. Setting up and communicating guarantees)

- Setting up guarantees by means of bank bonds, insurance contracts or immobilization of securities

  A tenderer shall demonstrate the existence of a guarantee for the fulfilment of the tender obligations in a Guarantee document (CODICE Guarantee) issued by an insurance agency or a financial institution, whenever a guarantee is set up by means of bank bonds, insurance contracts, or immobilization of securities.

  A contracting authority shall verify that the signers of the Guarantee document have the necessary powers by consulting the relevant register of evaluation (for example the Spanish Caja General de Depósitos) by means of the corresponding evaluation code contained in the document itself.

- Guarantees provided in cash or provided by a global guarantee

  If the guarantee had been set up in cash to the Government Depositary, or taking part of the amount of a previously deposited global guarantee, the document to be presented shall be a certificate issued by the Caja General de Depósitos (CODICE Guarantee Certificate).

  In this case, an economic operator may directly submit the document, or it may be requested by a contracting authority to the Caja General de Depósitos by means of a Certificate Request (CODICE Guarantee Certificate Request), when this service becomes available.

4) Notice of correction

In case of evaluation of the provided documentation by an economic operator turns out to be deficient, a contracting authority may submit a notice of correction to the economic operator so as for the latter to correct the error.

This document is not modelled by CODICE. It is a message of interpersonal communication.

5) Invitation to tender

Finally, in those tender processes developed through restricted or negotiated procedures or competitive dialogues, a contracting authority may invite admitted candidates (tenderers) to tender. A contracting authority shall provide tenderers with a call for tenders document and the rest of documentation necessary for elaboration of a tender. Also a contracting authority shall be in charge of publishing a notice reporting excluded candidates.

In the case of open procedures, a contracting authority shall send a notice of admission to admitted candidates to the process and a notice of exclusion to excluded candidates.

4.1.5.4. Documents

Documents that affect the process of admission and exclusion are:

4.1.5.4.1. Call For Tenders

A Call For Tenders is a structured document containing administrative provisions and technical requirements of a tender in a structured way.

With regard to the process of admission and exclusion, it is necessary to indicate the conditions for admission and / or exclusion of tenderers in a structured manner within the tendering conditions in a Call For Tenders document:

1) Allow an economic operator to automate the process of creating a qualification document [37]

2) Make it easier for a contracting authority to compare a qualification document and a call for tenders document. This shall lead to the admission / exclusion of candidates.

Conditions of admission and exclusion are specified as an aggregate class "qualification of an economic operator" (Tenderer Qualification) located within the tendering conditions class (Tendering Terms). In this class contracting authorities must specify criteria of solvency required for economic operators seeking to participate in the tendering process.

The component "qualification of an economic operator" (Tenderer Qualification) is used to specify the requirements that tenderers interested in participating in the tendering process must be in compliance with. Elements that must be defined in this component are:

- **General Data.** Textual descriptions of conditions to be met by economic operators to participate in the process.

- **Exclusion criteria.** Conditions that an economic operator must meet in order to enter into a contract with the public administration regardless of the procurement process in which they participate. Such conditions have to be verified necessarily comparing them with administrative documents provided by the tenderer. The following are examples of exclusion criteria:

  An economic operator is legally capable of entering into a public contract

  An economic operator is up to date with their payment of tax obligations

  An economic operator is up to date with their social security obligations

  An economic operator is registered in the Official Registry of Tenderers

  A Specific Requirement class is used within Tenderer Qualification documents in Call For Tenders to specify the list of exclusion criteria that an economic operator must overcome. In this class a name and a code for a requirement may be specified.

- **Selection criteria.** These conditions depend on each procurement file according to the characteristics thereof.

  o Required Classifications

  Depending on the amount and type of the contract, Spanish economic operators must be properly classified. This class can represent a generic scheme for classification so other EU Member States can use it to request their own business classifications. The modelling of this component may allow for a responsible agency and a classification scheme to be accurately established. Thus, an economic operator may always know about the classification system being required by a contracting authority.

  A Classification Scheme class is the class used to identify the classification required in a Tenderer Qualification document. A Classification Scheme class is used to identify the agency responsible for the classification of companies and different repetitions of Category Classification component to specify the required business classification, both group, subgroup and category in the Spanish classification system.

CODICE2

o   Criteria for evaluating technical and professional solvency.

Contracting authorities must indicate criteria for selection of tenderers according to their technical and professional capacities. The classification required in the previous class can prevent economic operators from certifying compliance with these technical and professional evaluation criteria. Nevertheless it is necessary for such criteria to be published to allow participation in the tendering process of any economic operator inside the European Union.

Later on herein the structure of evaluation criteria and how they should be reported to facilitate comparison with the capabilities of economic operators is discussed.

Criteria to be evaluated depends on the type of contract:

o   Works contracts

Works carried out in the last five years indicating the monetary amounts, dates and places of implementation, and accompanied with the corresponding certificates.

Statement indicating technicians or technical units available for the implementation of works

Academic and professional qualifications of an economic operator and the board of a company.

Environmental management media that an economic operator may apply to perform a contract.

Statement on the average annual manpower of the company and the extent of their managerial staff over the past three years.

Statement indicating equipment, personnel and technical team at their disposal for the implementation of works.

o   Supplies contracts

Main supplies made during the last three years, indicating amounts, dates and public or private recipients thereof, accompanied with the corresponding certificates.

Statement indicating technicians or technical units which are available for the implementation of the contract.

Description of the technical facilities and measures used to ensure the quality and methods of study and research of the company.

Control by the contracting public sector entity. This monitoring will cover the production capacity of an economic operator and, if necessary, the means of study and research available as well as measures used for quality control.

Samples, descriptions and photographs of products supplied. Their authenticity must be certified at the request of the public sector contracting authority.

Certificates issued by institutes or official services of recognized competence in charge of quality control attesting conformity of products clearly identified by references to determined specifications or standards.

o Contracts for the provision of services

List of major services or works an economic operator may have performed in the past three years, including amount, dates and public or private recipients thereof, accompanied by the corresponding certificates.

Indication of technicians or technical units.

Description of technical facilities and measures used by an economic operator to ensure the quality and methods of study and research of the company.

Review by a contracting authority

Academic and professional certificates of an economic operator and managers of the company and, in particular, of personnel responsible for implementation of the contract.

Indication of environmental management measures that an economic operator may apply to perform a contract.

Declaration on the average annual manpower of the company and the importance of their staff during the past three years, accompanied by documentation.

Statement of machinery, equipment and technical equipment available for implementation of works or services, accompanied by relevant supporting documentation.

Indication of the proportion of the contract an economic operator intends to outsource eventually.

o Criteria for evaluating economic and financial solvency

Economic and financial solvency of an economic operator may be demonstrated by one or more of the following elements:

- Appropriate statements from financial institutions or, where applicable, proof of existence of professional risk indemnity insurance.

- Annual accounts, presented in the Trade Register or in the corresponding official Register. Employers not required to submit official records accounts may provide, as an alternative means of accreditation, accounting records duly authenticated.

- Declaration on the overall turnover and, where appropriate, of turnover in the field of activities for the purpose of the contract, referred to as far as of the three most recent years available, depending on the date of creation or start of activities of an economic operator, to the extent that references are available for this turnover.

- If, for some reason, an economic operator is not able to provide the references requested, they may prove their economic and financial capacity by any other document deemed appropriate by a contracting authority.

o Compliance with quality standards

For contracts subject to harmonized regulation, when contracting authorities require the production of certificates issued by independent bodies attesting that an economic operator meets certain quality assurance standards, they shall refer to the systems of quality assurance based on the European standards in the matter, certified by bodies conforming to European standards concerning certification.

o   Compliance with environmental management standards

For contracts subject to a harmonized regulation, contracting authorities may require the submission of certificates issued by independent bodies attesting that an economic operator complies with certain environmental management standards.

A class called Evaluation Criteria is used here to specify selection criteria that an economic operator must declare and prove when creating a Tenderer Qualification document. The structure of an Evaluation Criteria class includes the following components (in some cases only a textual description of selection criteria may be included. In those cases automatically verifiable such as the overall turnover, such evaluations may be automated by the use of codes, expressions and thresholds):

- Definition of type of criteria: Selection and exclusion criteria must be encoded according to the Law and / or European directives. Only encoded exclusion and selection criteria can be compared with the capacities declared in the Tenderer Qualification documents.

  CODICE 2 shall define a list of codes that allow characterization of different selection criteria, both financial-economic and technical-professional.

- Textual description of evaluation criteria: The text should only be used for those criteria where there is no typification. Non-typified criteria prevent automatic assessment of the capabilities of tenderers or interested parties.

- Thresholds: There are two types of thresholds; monetary and numeric. A particular threshold shall be used depending on the type of criteria.

- Code of expression: It is a code that determines whether a threshold (either numerical or monetary) should be treated as minimum or maximum.

- Duration: This component allows for a contracting authority to define how long this criterion or condition must have been taking place.

- Suggested evidences. Finally, a contracting authority may establish some evidences to be used by an economic operator to demonstrate compliance with selection and exclusion criteria. This list of evidences should also be encoded to allow automatic processing of the generation of a Tenderer Qualification document and for the collection of evidence.

4.1.5.4.2. Tenderer Qualification

A Tenderer Qualification is a document containing information of the tenderer or group of tenderers that participate in a tendering process. A Qualification document (Tenderer Qualification) is a response to a call for tenders document, either to request participation in a restricted or negotiated procedure, or in a competitive dialogue, or to complete a tender in the context of an open procedure.

A qualification document is used by economic operators to declare their status and capacities according to exclusion and selection criteria listed in the call for tenders. It is also used to provide

the evidence necessary for a contracting authority to evaluate the economic operator to be admitted to the tendering process.

PartyQualification Class

The structure of a Qualification document (Tenderer Qualification) has a component named PartyQualification that gives information on the structure of the tenderers and the criteria each of them state to comply with. This class lets you specify at a contract level, or at lot level who is the prime contractor, subcontractors, and in case of a joint venture, the participants in the joint venture.

This class can be repeated to specify different qualifications for different lots. In the Call For Tenders, requirements for tenderers to comply with may be specified at a general level or at lot level, in case it is necessary to specify different types of capacity of economic operators to each of these levels.

- Lot Identifiers. Lots in the tendering process must be identified by the same identifiers as defined in the Call For Tenders. In this way the process of evaluation of Tenderer Qualification documents may be automated.

- Leader and additional tenderers, who may be subcontractors or participants in a joint venture.

The leader and the additional tenderers are defined by means of a Qualifying Party class, containing the following components:

- Participation rate in case of a joint venture.

- Information about the company or individual.

- Information about the business profile.

A business profile gives information about the capabilities of the company, both technical and economic, as well as classifications owned by the company, which serves to prove compliance with stated selection criteria. The elements of this component are:

- Properties of a company, such as the number of employees, years of operation or the company's legal form.

- References to evidences on the identity of the company and its capacity to act and evidences on business classification, if required by the Call For Tenders.

- Business classifications of a company.

- Technical / professional capacities

- Economic and / or financial capacities

- Experience

- Requirements stated by an economic operator (which may include exclusion criteria)

Associated classes of capacities, experiences or requirements stated by an economic operator have a property that can point to the relevant documentary evidence.

Apart from the structure of the tenderers, with their statements of capabilities, a Tenderer Qualification document has a collection of elements where evidences can be embedded or all necessary evidences can be linked. Thus a contracting authority is able to verify the veracity of the statements made by the tenderers.

Evidences can be used to demonstrate compliance with one or more of the criteria stated in the qualification document (Tenderer Qualification).

The evidence component provides the following attributes:

- Identifying information of an evidence, language and title of the evidence document.

- Identification of the criteria which are proven by the evidence.

- Relationship with the service or the party responsible for the issuance of such evidence. For example, the Official Registry of Tenderers and Classified Companies would be the issuing ROLECE Certificates.

- Relationship with an evidence document. It may consist of the document itself embedded in the instance or an external reference to the document.

Evidence documents can be of any type. It shall depend on the level of maturity of the issuing bodies of such documents the possibility for such documents to be automatically processed.

- Scanned documents, or bearing an unstructured format, require the verification phase of the statements of the tenderer to be performed manually.

- An exchange of structured documents, such as a ROLECE Certificate shall enable systems to evaluate them and provide contracting authorities with a larger and better support.

4.1.5.4.3. Evidence

An evidence document is any supporting document or evidence which can be embedded within a Tenderer Qualification document or be referred by a URI. They may be structured or unstructured documents. In this section only one type of structured documents that can allow the verification of declarations of an economic operator is discussed for the Spanish case.

4.1.5.4.3.1. ROLECE Certificate

A ROLECE Certificate is the certificate issued by the Spanish Official Registry of Tenderers and Contractors.

A data model of a ROLECE Certificate will be seen later in this document, in the Registry section.

4.1.5.4.4. Guarantee

An economic operator can submit to a contracting authority an electronic provisional guarantee issued by a financial institution or an insurance company, e.g. a bank guarantee, an insurance contract or immobilization of securities.

The contents of the guarantee document (Guarantee) is described in more detail in Section 4.2.4.4.3. A contracting authority must verify that the provisional guarantee consists of the amount specified in the call for tenders document and that attorneys signing thereof have sufficient powers.

The verification of credentials of the signatories should be made by a contracting authority through the Spanish Caja General de Depósitos.

4.1.5.4.5. Guarantee Certificate

The certificate or receipt of guarantee is generated by the Caja General de Depósitos (Spanish Government Depositary) to inform both an economic operator and a contracting authority that a

guarantee has been deposited. For a guarantee to be set up by means of a cash deposit, such a deposit must be carried out by an economic operator to the Caja General de Depósitos (CGD).

In this case, the Caja General de Depósitos creates the guarantee certificate which has to be signed to prove its integrity and authenticity of origin. The CGD submits it to an economic operator which must resubmit it to a contracting authority along with information regarding qualification.

Contents of the guarantee certificate are described below in Section 4.2.4.4.4.

4.1.5.5. Process Detail

The process of admission and exclusion has the following sequence:
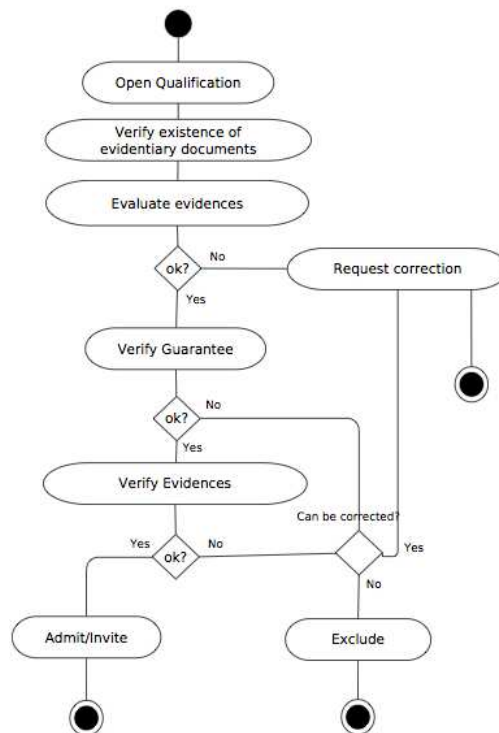
Activity Diagram 3 Admission and Exclusion

Activity	Description
Opening of Tenderer Qualification Document	Tenderer Qualification documents can be part of the tender or requests to participate and may be subject to security or encryption mechanisms to prevent them being opened before a certain date. The first step in the process of admission and exclusion consists of opening qualification documents, following the mechanisms established for that purpose by a contracting authority. In case of open procedures, the date upon which Tenderer Qualification

	documents can be disclosed is the final date for submission of tenders. In other procedures, the end date for submitting requests to participate has to be considered.
Verifying existence of supporting material	It consists of an automatic verification that the requirements for tenderers established in the document Call For Tenders are contained in Tenderer Qualification document.
	A Tenderer Qualification document may refer to one or more than one economic operator when several companies take part in a joint venture or when there is outsourcing.
	When the tender is submitted by a single economic operator the following must be done:
	1. Verify that his capacity to act can be verified, i.e. there is a reference to evidence about the personal situation of the company and there is suitable documentary evidence.
	2. Verify that all of the requirements specified in the Call For Tenders have their corresponding Declared Requirement in Tenderer Qualification document. Some requirements do not require documentary evidence at this stage of the process. They shall be credited only upon award of the contract to an economic operator.
	3. In case a business classification is required, it has to be verified that the classification declared is an admitted statement in the Call For Tenders. Also existence of a document certifying such a classification has to be verified.
	4. In case a declared classification is not one of those permitted in the Call For Tenders, all of professional-technical and economic-financial evaluation criteria established in the Call For Tenders have to be verified as contained in the Tenderer Qualification document. Each evaluation criteria defined in the Call For Tenders has a code related to the type of criterion that serves to connect this criterion with the corresponding capacity. This means that to create the class named Party Qualifications a Capacity class must be defined for each of the Evaluation Criteria classes defined in the Call For Tenders, establishing therein the reference to suitable evidence.
	In the event that the tender is submitted jointly by a joint venture it shall be taken into account that, under Article 43 of new regulation in Spain:
	"When classification is not required in temporary unions of economic operators, every company in the union must demonstrate ability and solvency in accordance with Articles 61-71 of the Act. Such demonstrations shall accrue for the purposes of determining the solvency of each of the members of such a joint venture.
	A call for tenders document must provide, for this purpose, the minimum levels of economic and financial and technical or professional solvency each of the companies in the joint venture have to submit so as for the whole solvency to be evaluated."

It should also be taken into account Article 47 of that regulation:

"..., it is a basic requirement for the accumulation of the characteristics of each of the members at the joints ventures, in particular for classification by a contracting authority, by means of a board of experts, that all companies to attend the tender have previously been classified as companies providing works or services, depending on the type of contract for which the classification is required ...

...When classification is required in various subgroups in the context of a tendering process, and members of the joint venture economic operators are classified individually in different subgroups, the union of companies shall achieve classification in all of them according to their maximum individual categories.

...When several companies are classified in the same group or subgroup of those required, the category of the joint venture, in that group or subgroup will be the corresponding to the sum of the mean values (Vm) of the intervals between their respective categories in that group or subgroup, for each of the companies, provided that they participate in the joint venture with a minimum of 20%

For the calculation of the average value (Vm) of the categories the following formula shall be applied:

Vm = lower limit + upper limit / 2.

... If any of the companies did not participate, at least with the above-mentioned figure of 20 per 100, the average value range of the category will apply a reduction coefficient equal to their percentage of participation in this implementation, divided by 20. To this end, in case of the highest category applicable to the subgroup, to calculate the average value of its range, the maximum value thereof equals double of the minimum."

In accordance with the aforementioned, verification of declarations in this case must take into account the following points:

> 1) It must be verified that none of the companies who form the union fails to comply with any of the exclusion criteria.

> 2) In the case of classification required, it must be verified that all economic operators are classified in the required group.

> For each of the subgroups required in the call for tenders, at least one of the companies who form the union should be classified in it.

> To verify the required minimum grade requirement in the subgroup the formula stated in the regulations has to be used taking into account the participation rate of each company in the JV. "

> 3) In case of the criteria for economic and financial solvency, it shall be verified for each of them that the sum of the numbers of each of the companies that serve to demonstrate the economic and financial solvency exceeds the threshold set. Nevertheless an individual minimum may exist for each of the companies in the JV to comply with.

> 4) In case of technical and professional solvency criteria, it has to be verified that the sum of the figures for each of the criteria overcomes the

	threshold required in the call for tenders. Individual thresholds may also be set.
Verification of evidences	**1. Verification of capacity to act** The verification of documentation are manual processes in most cases because they require human supervision. The ability to work is one of the cases where human intervention is required because there is no coding system of social objects and therefore there is no mechanism for comparing one with another. The task of verifying the capacity of an economic operator to act corresponds to the jury Committee. The qualification document, however, should provide the necessary documentation to enable the Committee to verify this capacity to act. Supporting documents required for verification can be: o A ROLECE Certificate o Memorandum of Association & Company Constitution Articles of Association And these must be submitted along with the Tenderer Qualification document and be referred from the Party Qualification of each company participating in the tender. **2. Verification of legal ability to enter into a contract** Accreditation of ability to enter into a public contract may be systematized if an economic operator uses the ROLECE Certificate. As it shall be discussed in the section Register of companies a ROLECE Certificate can cover all the points to be accredited to verify that an economic operator is able to participate into contracts with government. Economic operator must submit an additional statement ensuring that items registered in the ROLECE Certificate have not changed since registration. Economic operators can also make a statement on their ability to enter into public contracts. A certificate of a competent authority may also be submitted as established by national legislation. In these two cases a verification process can be systematized: • With a ROLECE Certificate, verifying the existence of all required Contracting Prohibition elements. • It can be verified if the Tenderer Qualification document contains a Declared Requirement indicating that an economic operator does not fall within any prohibition to contract. **3. Verification of compliance with taxes and social security** These criteria can be complied with using a statement of responsibility issued by the tenderer. A documentary proof shall be submitted before the final award. Statements of responsibility must be declared in the qualification document by means of a Declared Requirement class. **4. Verification of classification**

	Proof of business classification in Spain can only be provided by means of a ROLECE Certificate. Therefore inclusion in the tender envelope is required in cases where a contracting authority requested a classification level and the economic operator is Spanish. This verification can take place in a systemic way, proving that the classification defined in the Certificate ROLECE matches with the classification contained in the Tenderer Qualification document. **5. Verification the technical and economic capacities** Technical and economic capacities shall be verified if an economic operator has not reported a business classification, either because it is not a Spanish company or because there was no request for classification in the tendering process. For each of the technical and economic capacities relevant evidentiary documentation should be opened and its contents compared with the corresponding statement. If an accreditation document is a structured document, this process could be automated. However, due to the large number of possible supporting evidences, it is envisaged that this process will be typically manual. **6. Verification of compliance with environmental management standards and quality assurance** It must be manually verified that supporting certificates actually prove compliance with the required standards.
Verification of a provisional guarantee	In case the call for tenders requires the settlement of a guarantee prior to participate in the tendering process, existence of this guarantee must be verified by means of the relevant supporting evidence: • If the guarantee had been constituted by bank guarantee, insurance contract, or immobilization of securities, it has to be verified that signers of the guarantee document (Guarantee CODICE) have the necessary powers by consulting an evaluation registry using an evaluation code that should be included in the Guarantee document itself. If the guarantee was set up using cash or through the involvement of the corresponding amount of a previously deposited global guarantee, the Certificate of Guarantee (Guarantee Certificate) issued by the Spanish General Fund of Deposits has to be verified.
Request for correction	In the event that any of the above verification processes fails, either because verification of existence of supporting material has failed, or because testing of the evidence has failed, a contracting authority may request its correction to the economic operator. The request for correction is not a CODICE document because it is not a document useful to automate a process. It is a notice to inform an economic operator to submit supporting documentation that is not present in a current Tenderer Qualification document.
Admitting / inviting a	Once all exclusion and selection criteria have been positively verified, an economic

tenderer	operator is admitted to the tendering process.
	In case of an open procedure, a notice of admission is submitted to a candidate by a contracting authority. In case of another type of procedure, an invitation to tender and the call for tenders are sent to the economic operator.
Excluding a tenderer	In case verification of selection and exclusion criteria has failed and an economic operator has not provided the necessary documents requested by a contracting authority upon a request for correction, economic operator is excluded from the process. A notice of exclusion is sent to an economic operator by a contracting authority.

4.1.6. Provisional award of a contract

4.1.6.1. Introduction

As stated in sections 4th and 5th of Chapter I, Title I of Book III of the [LCSP] a contracting authority must evaluate the received proposals from eligible economic operators to determine the most economically advantageous tender. To this end, a contracting authority must consider criteria related to the subject of a contract, such as the price, quality, implementation period, environmental characteristics, etc. Such criteria shall have been indicated in a contract notice, in the call for tenders or in the descriptive document along with the value or weighting of each of them leading to the award of a contract.

When using a single criterion for the award, this must be the lowest price.

A contracting authority may define two types of awarding criteria:

- Objective criteria, which can be estimated by applying a formula.

- Subjective criteria whose score is dependent on value judgments.

A contracting authority will give greater prominence to objective criteria. However, in case subjective criteria have a greater value, a committee of experts not belonging to the contracting authority and with appropriate qualifications shall be summoned. This committee of experts shall be responsible for evaluation of technical proposals. This specialized technical committee or body shall be identified in the call for tenders.

If an award process depends on subjective and objective criteria, the former shall be evaluated in first place. This implies that in the procurement process, evaluation of tenders has to be split. Documentary evidence detailing subjective criteria shall be opened in the first place. Later, after a first evaluation of a tender, documentary evidence reporting on objective criteria shall be opened and awarded a corresponding value according to the application of formulas.

After examining awarding criteria, a contracting authority may create an ordered list of candidates, provisionally awarding the contract to the one at the top. An award of a contract may be declared void in case no tender submitted by candidates fulfils awarding criteria defined in the call for tenders.

No provisional award shall be made to the economically most advantageous tender if a contracting authority considers that it cannot be accomplished due to the inclusion of disproportionate values. These disproportionate values can be set by comparing the value in a range with all values set in the whole set of all tenders received. The call for tenders will set out the criteria for calculating tenders deemed abnormally low. Before rejecting an offer on the grounds that it is disproportionate, an economic operator shall be summoned to a hearing for them to discuss the securities offered. If a contracting authority considers that the offer cannot be satisfied under the conditions set by the

candidate, the following provisional contractor on the list whose tender can not be considered disproportionate is chosen.

The processes leading to publication of an award notice and the provision of additional documentation are discussed in detail in the following sections.

4.1.6.2. Benefits

The main benefits of automation of an award process are the following:

Aspect	Beneficiary	Benefit
Systematization of the creation of an ordered list of tenderers	Contracting authority	Automated tender management based on objective award criteria allows a contracting authority to save time in analyzing the tenders received.

4.1.6.3. Process

4.1.6.3.1. Context

Categorisation of contexts according to drivers defined in ebXML.

Categories	Description and Values
Business Process	Procurement (Tender)
Product Classification	All kinds of goods and services
Sector Classification	Public procurement in any sector
Geopolitical	Europe
Official Restrictions	Directives 2004/17/EC and 2004/18/EC and LCSP (Spain)
Role in Business Process	Award of a tender process based upon objective award criteria.

4.1.6.3.2. Scope of the process

Evaluation award criteria and management of the tenders received based on such award criteria.

4.1.6.3.3. Actors and roles

An award process involves two players who act with the roles described below.

Actor	Description
Contracting authority	A contracting authority is the legal entity or organization seeking to acquire goods, services or works in the tendering process. A contracting authority can be the beneficiary of the acquisition or be acting on behalf of another entity or organization.
Economic Operator	An economic operator is a potential supplier of a contracting authority. Their role varies depending on the stage of a tendering process. An economic operator may be in turn composed of several associated

legal entities to participate in an award process.

The roles played by these actors in this process are the following:

Role	Description
Reviewer	A contracting authority is acting in this process as an evaluator or reviewer. A contracting authority shall be responsible for establishing award criteria of a contract. Also they are responsible for the evaluation of such criteria in order to complete a procurement process.
Interested party or Tenderer	An economic operator acts in the role of interested party or tenderer upon submission of information regarding a tender.

4.1.6.3.4. Subprocesses of collaboration

The evaluation and award of a contract has the following threads.
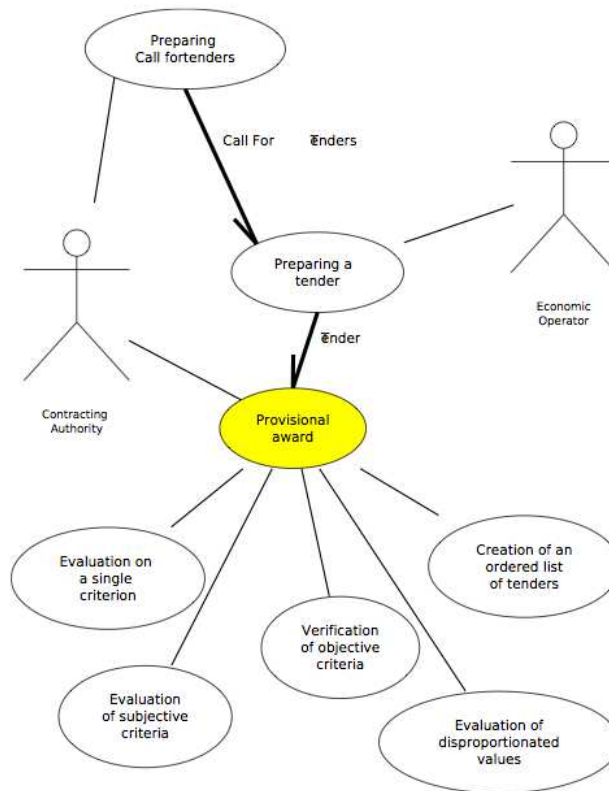
Use Cases 5 Provisional award

1. **Evaluation on a single criterion**

When the sole award criterion is the price, award criteria may not be specified in the contract notice nor in the call for tenders document.

In this case, a tenderer shall submit technical and economic information in a single document. The evaluation may then be performed on lump sum or upon unit prices.

In case a lump sum evaluation applies, procurement process shall compare the total amounts for each of the different lots (if applicable) of all tenders received. The order of tenders is performed based upon minimum price. If the contract is divided in lots, an ordered list for each lot is created.

If the evaluation is based upon unit prices, complexity increases. Several cases may be taking place:

- Unit prices with total price

  In call for tenders document unit prices are requested, specifying the price at line level, but the number of units of each item is also indicated. This yields a total budget using the sum of line items. Total prices at lot level may be also indicated. In these cases, tenders shall have the same structure, with their lines being evaluated. Thus, when it comes to evaluate received tenders, a tender overall price is considered as in a lump sum evaluation, even if unit prices are the sole commitment for the tenderer.

- Weighted unit prices

  It may be the case of requiring unit prices applying a weighting algorithm to obtain an overall evaluation price. In this case, award criteria shall be established in the call for tenders document. The weightings shall be set forth. This type of processes should not be considered as a single-criterion process but as if they were based on multiple criteria.

- Unit prices based on the number of units

  Unit prices expressed in stages, depending on the number of units supplied. In this case the Request for Tender Line shall indicate the product price ranges depending on the number of units using various iterations of the component Item Location Quantity Required in the Item element. In a Tender document, the Request for Tender Line shall be responded to by using the Tender Line and by different price ranges using Offered Item Location Quantity.

2. Evaluation of subjective criteria

In case a procurement process is bound to subjective criteria, those shall be evaluated first. In order to evaluate them an expert committee shall be summoned. They are in charge of evaluating unstructured information suppliers provide.

Evaluation and management of subjective criteria of tenders received cannot be automated. Many people intervene in this process and an accurate human analysis is required to evaluate final proposals.

A call for tenders document shall specify the date of disclosure of technical information document. Elements allowing evaluation of subjective criteria are reflected therein.

3. Verification of objective criteria

In case of tendering processes based on objective criteria, a contracting authority can compare the tenders received whenever they have a structure responding to those criteria set forth in the call for tenders document.

It is not possible to have a codelist with all possible elements that can be considered as objective criteria, so the relationship between the award criteria and the answers provided by candidates in the tender shall be done though an ID / IDREF technique rather than by codes as it is in the case of admission or exclusion of tenderers.

Formulas for evaluation of tenders regarding award criteria can be very different.

For each award criteria a score is set forth according to the weight of that criterion and the relative position to the values set on the basis of all tenders received.

Example:

"

A) *Economic tender: 50 points. The lowest tender shall be assigned the maximum score (50 points). The rest of tenders will be assigned proportional scores each by applying an inverse rule of three.*

B) *Number of users: 10 points. The calculation shall respond to a "minimum number of instant users" criterion. This number identifies the minimum number of users with possibilities in the game when all elements of a game are occupied by users.*

Given the different components of the games the following basic criteria shall be set forth to determine the number of users:

- *Logic number of users according to context, e.g. a swing with two seats equals two users.*

- *In games with multiple items shall break down the different elements for each element by assigning users following the procedure specified in the example in Annex 2 of the Technical Specification.*

- *In no case shall users exceed the number of users established by the load calculation of EN-1176-1 (Appendix A; Technical Specification)*

- *In case of difference in the number of users among different candidates regarding the same element, the minimum number of users has to be estimated.*

In the event that a tender is detected with an excessive number of users derived from the rise manipulation in the number of "minimum number of instant users" shall be discarded. A tender with the highest "minimum number of users" shall be assigned a maximum score (10 points). The rest of candidates shall be assigned proportionally resulting points by applying a direct rule of three."

Besides, award criteria based on subcriteria may also be described:

"

QUALITY *7 Points*

Criteria for defining quality:

- *Machine proof, up to 4 points*

- *Greater number of threads / 10 cm2, 0.5 points*

- *Minor soak time, 1 point*

- *Minor presence of surfactants, 1.5 points"*

- Standardization of scores

  The score given to each alternative for a given criterion depends on the values tendered by the rest of tenderers. This can be done using commonly used algorithms or other more complex formulas.

- Weighting algorithm

  There are different weighting and choices management algorithms based upon scores and weights of all award criteria. An algorithm for weighting criteria shall be reported in the call for tenders document. It is used to determine how to perform the final management of tenders based on the results in each of the established award criteria.

Such considerations are reflected in the Awarding Criteria component of a Call For Tenders document. Awarding Criteria defined within the Awarding Terms class, where there is a weighting algorithm or a description on rejection of abnormally low tenders. In response to Awarding Criteria, the candidate shall then provide their Tender document with a set of Awarding Criteria Response components. The latter contains information on characteristics of a Tender regarding objective criteria required in the call for tender document. A contracting authority may then compare the values of the various award criteria in the various tenders. Thus, a score for each criterion and tender may be finally provided.

4. Evaluation of disproportionate values

As in the case of award criteria, those criteria defining disproportionate values are provided within the Call For Tenders document.

When the sole criterion for the tenders to be evaluated is the price, its disproportionate nature is established by the parameters set out in Regulation [RGLCAP]. [38] In this case, tenders are considered abnormal values:

- With less than four tenderers, the tender is less than 25% of base budget.

- With more than four tenderers, which are lower by more than 10% of the arithmetic mean of submitted tenders.

This is regulatory information, which means that it is not necessary to be indicated in the call for tenders documents.

In case there is more than one award criterion, parameters upon which a tender has to be considered abnormally low may be provided in the specification document. Nevertheless, automation of evaluation of tenders based upon abnormally low or disproportionate criteria is not recommended for their complexity. On the same basis, automation of the process for exclusion of a contract due to a disproportionate value is not recommended.

For this reason, information on the evaluation criteria of tenders with disproportionate or abnormal values is modelled as a text in Awarding Terms component. It allows a candidate to know the criteria by which a contracting authority understands a tender to be impossible to be carried out due to disproportionate values being proposed. A contracting authority shall then manually evaluate whether a candidate tender may be realized on the basis of their values being disproportionate.

5. Creation of an ordered list of tenders

Finally, a contracting authority shall be able to create an ordered list of tenders for each of the lots. The first candidate on the list is the tenderer to be awarded the provisional award of a contract. This process is linked with the Publication of an award.

4.1.6.4. Documents

4.1.6.4.1. Call For Tenders

A Call For Tenders is a structured document containing the administrative provisions and technical requirements of a tender in a structured way.

With regard to the process of evaluation of tenders and award criteria, a modelling of award criteria is defined to facilitate the comparison of tender documents received along with the call for tenders document. This makes it easier for an ordered list of candidates to be created. On this basis a provisional contractor may be selected for each lot.

Award conditions are specified in different classes within the Tendering Terms class. Awarding Type Code and Evaluation Type Code elements of Tendering Terms class are used to describe whether the procurement process shall be governed on the basis of a single criterion or on multiple criteria. Also it describes whether the analysis of prices shall be based on lump sums or on unit prices, respectively. In case it is established for a contract to be governed by multiple criteria, the different award criteria shall be established within the scope of Awarding Criteria aggregated classes within Awarding Terms class.

Awarding Terms component has the following contents:

- **Generic data.** Such data is used to specify generic parameters to be considered in the award:
  - Weighting algorithm of multiple criteria, encoded. It has to be provided only in case of multiple criteria.
  - Description of the jury, and anything related to an award ceremony.
  - Textual description of the expert committee that shall evaluate subjective criteria. It has to be provided only in case of existance of subjective criteria.
  - Textual description of the mechanism used in the evaluation of tenders with abnormal or disproportionate values.

- **Award criteria.** In contracts governed by multiple criteria, award criteria shall be specified. To this end, an Awarding Criteria component is used containing the following elements.
  - Criterion identifier, required. Tender documents shall reference to the original Awarding Criteria using this ID in Awarding Criteria Response element.
  - Type of criterion. It may be Objective or Subjective. Subjective criteria shall not have a corresponding Awarding Criteria Response. They are evaluated on the basis of a value judgment.
  - Textual description of the award criterion.
  - Weighting for the award criterion.
  - Expression of calculation, formula. Textual and encoded components allowing a contracting authority to define the basis upon which a particular criterion is going to be evaluated for received tenders. For example, "Fraction of the ideal, minimizing criterion"

o Range of quantities and prices in order to specify minimums and / or maximums for each of the criteria

o Subcriteria. An award criterion may be a composite of several subcriteria.

In terms of procedure, some dates and events defined in the document Call For Tenders are also relevant:

- **Period deadline for submission of tenders.** A date or a textual description. Corresponding class is denominated Tenders Reception Deadline Period and it is located in a class called Tendering Process.

- **Period deadline for submission of requests to participate.** A date or a text description may be established to identify the final submission of requests to participate in restricted and negotiated procedures; this class is located in Tendering Process and is called Participation Request Reception Period

- **Disclosure of subjective criteria**. In projects where subjective criteria apply, you can set the date and place of public disclosure of technical tenders.

- **Disclosure of economic tender.** Date and place of the public disclosure of financial proposals.

4.1.6.4.2. Tender

Candidates submit Tender documents to be evaluated in this process. Depending on the type of procedure and the conditions of presentation set out in the call for tenders document (see 4.1.3 Preparation of the call for tenders document and 4.2.3. Preparation of the tender), each candidate may send several Tender documents. A TenderTypeCode element placed at the root Tender document indicates the typology of the Tender document. It can be one of the following:

- Technical and Economic Tender Document, in cases in which only the price is a criterion to be evaluated or in cases with multiple criteria, provided such all criteria are objective award criteria.

- Technical Tender Document. It describes a technical solution where it is due to open before economic proposals because subjective criteria have to be evaluated in advance.

- Economic Tender Document, with economic data and the response to objective criteria.

- Complementary Document. It contains other information requested by a contracting authority.

- Indicative Tender Document to submit indicative tenders in the procedure leading to the establishment of a dynamic purchasing system.

Only economic tender documents, technical and financial tenders and indicative tenders may be evaluated in a systemic way. In this type of document the following components shall be considered for further evaluation and sorting of the award criteria.

Those tenders in which price is to be evaluated on a lump sum basis, a tender price will be found in Legal Monetary Amount class inside a Tendered Project.

There is a Tendered Project for each lot when a tender is divided into lots.

In those tenders whose evaluation is carried out on the basis of unit prices, amounts in the detail ranks of the economic tender shall be compared. Detail ranks are provided in a Line Tender component. It has the following elements:

- **Data in a tender line.** Identifiers for line, quantity and total amount as well as information on guarantee and logistic issues like order unit, minimum or maximum order quantities.

- **Item.** Description of the item offered.

- **Relative amounts.** Monetary amounts to describe the item depending on quantity or location.

- **Guarantee.** Information about item guarantees.

For simple unit amounts, tendered Item Location Quantity (relative amounts) of each of the lines shall be compared.

In case the tender has to be evaluated on the basis of multiple criteria, a tenderer shall report Awarding Criteria Responses in each Tendered Project. Each objective Awarding Criteria shall have its corresponding Awarding Criteria Response where the economic operator shall establish the value for this criterion of his tender.

Evaluation process shall gather in all Awarding Criteria Response for each tender and compare them according to the method of calculation set forth in the call for tenders document.
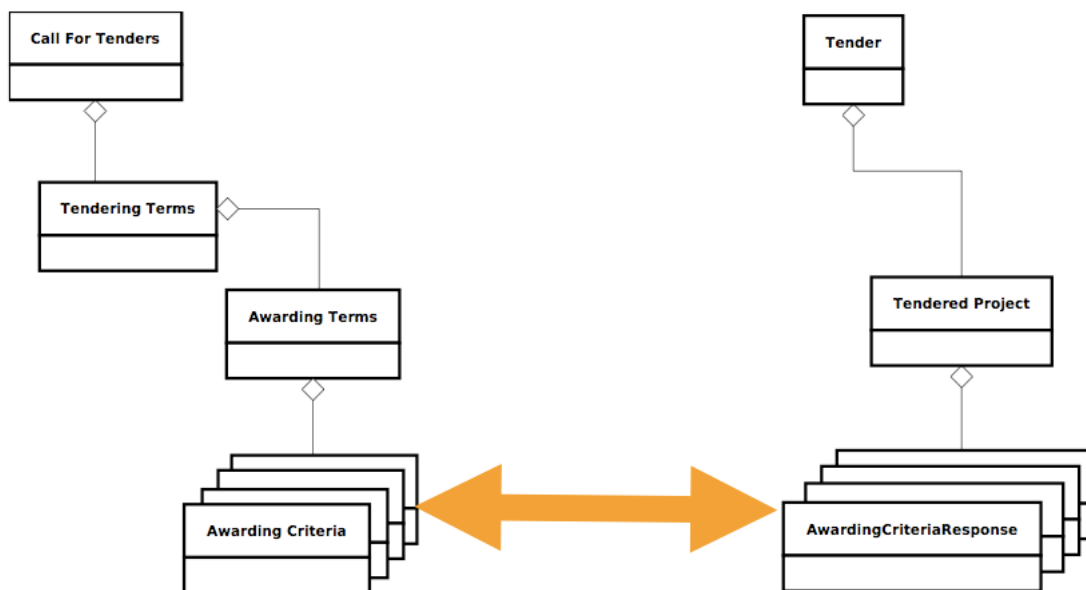
Figure 2 A relationship between CallForTender and Tender

4.1.6.5. Process detail

The following procedure and included activities shall be performed to complete evaluation of tenders:
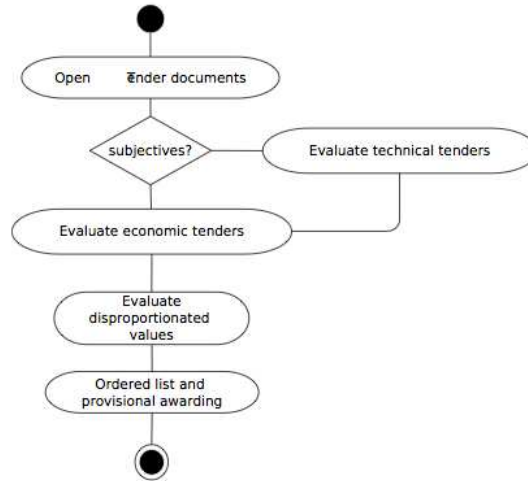
Activity Diagram 4 Provisional award

Activity	Description
Open or disclose Tender Documents	The evaluation of tender process starts with a disclosure of documents. Depending on the type of procedure and the existence of subjective criteria one of the following documents may be disclosed: a qualification document (see 4.1.5), a "Technical tender" document or an "Economic tender" document.
Evaluate technical proposals	Technical tenders shall be disclosed on the date specified for that purpose in the call for tenders document. The content of technical tenders is used to evaluate subjective criteria also established in the Awarding Criteria component inside the call for tenders document. However, unlike the case of objective criteria, no tenderer can generate an explicit response to subjective award criteria. In this case, Technical tender document can only contain textual information in the form of documents. Contracting authority handles it to an expert committee. This committee of experts is then in charge of evaluating them according to subjective criteria established in the call for tender document.
Evaluate economic tenders	The process of economic evaluation of tenders depends on the number of criteria: • A single criterion, lump sum In this case, evaluation process shall compare the totals (LegalMonetaryTotal) of Tendered Project of all received tenders. In case it is a project divided into lots, there shall be various components Tendered Lot reported in the Tender. They have to be compared with those bearing the same lot identifier. Thus, different ordered lists are created for each of the lots. In contracts with a single criterion, variants are not supported [39] .

	• A single criterion, unit prices
	In case of a single criterion, this being the unit price, two cases might apply. If there is a total maximum price in the tender, tenders shall be evaluated as in the previous case.
	If price ranges for quantity are defined in the call for tenders in each of the Request For Tender Line, prices of Tender Line in each requested section will be compared.
	• Multiple criteria
	In case a contract is evaluated on the basis of multiple criteria, a Call For Tenders document shall contain as many Awarding Criteria as the number of criteria required by a contracting authority. A weighting and a specification of a method of calculation have to be included too.
	A tenderer shall prepare an economic proposal with a set of Awarding Criteria Response components that are a mirror of the Awarding Criteria to measure. Each of the objective Awarding Criteria shall correspond to an Awarding Criteria Response with a value declared by a tenderer. Thus, the comparison process of objective award criteria of tenders by a contracting authority consists of comparing the Awarding Criteria Response of all received tenders for each criteria defined in the call for tenders. In this process the formulas defined in the call for tenders apply.
	In those cases where submission of variants is allowed in the call for tenders document, a tenderer may create a single Tender document with different Tendered Project components, one for each variant. Each of these variants is evaluated the same way as defined above, obtaining the final sorted list.
Exclusion of contracts with abnormal or disproportionate values	The last activity is the creation of an ordered list of tenderers for each lot [40]. It depends on all criteria (subjective and objective) in the case of a contract evaluated by multiple criteria, or by price in case of contracts based upon a single evaluation criterion.
	At this point the fact of an awarded tender with a disproportionate value shall be considered. In case the only criterion is price, it shall be checked that the awarded contract cannot be considered abnormally low in accordance with regulations. If there are criteria for consideration of tenders with disproportionate or abnormal values in the call for tenders document, those shall be evaluated manually.

4.1.7. Publication of Award

4.1.7.1. Introduction

Provisional award shall be notified to candidates [41] and be published in an official journal or in the buyer profile, depending on certain conditions [42]. Fifteen days after publishing a provisional award, its status may change from provisional to final whenever the contractor submits the supporting documentation acknowledging the following:

- They are up to date with payment of Social Security

- They are up to date meeting tax obligations

- Documentary evidence of their ability to tender or assignment of committed resources

- Final guarantee setup

Some of these documents can be provided along with a qualification document. In such a case, they have not to be submitted again at this stage of the process.

If instead of providing these documents, responsible statements were provided in the qualification document, documentary evidence has to be provided at this stage of the awarding process.

If the provisional awarded tenderer fails to provide required documentation, a contracting authority may be awarding the next candidate in the sorted list of tenders on a provisional basis, provided the latter agrees.

4.1.7.2. Benefits

Electronic submission of a contract award notice and its notification to participants in a procurement process, basically produces a benefit on the economic operator side.

Aspect	Beneficiary	Benefit
Increasing transparency	Economic operator	An economic operator has actionable information on all awards. This adds transparency to the public procurement system.

4.1.7.3. Process

4.1.7.3.1. Context

Categorisation of contexts according to drivers defined in ebXML.

Categories	Description and Values
Business Process	Procurement (Tender)
Product Classification	All kinds of goods and services
Sector Classification	Public procurement in any sector
Geopolitical	Europe
Official Restrictions	Directives 2004/17/EC and 2004/18/EC and Spanish LCSP
Role in Business Process	Notification and publication of the award.

4.1.7.3.2. Scope of the Process

Notification of award to participants in the process and publication in publishing organizations of information regarding an award.

4.1.7.3.3. Actors and roles

In the process of notification of the award there are three actors who act according to roles described below.

Actor	Description

Contracting authority	A contracting authority is a legal entity or organization seeking to acquire goods, services or works through a the procurement process. a contracting authority can be the beneficiary of the acquisition or be acting on behalf of another entity or organization.
Economic Operator	An economic operator is a potential supplier of a contracting authority. Their role varies depending on the stage of a procurement process. An economic operator may be composed of several associated legal entities to participate in the award process.
Publication body	A publication body is the entity that publishes the information so it can be accessed by economic operators.

The roles played by these actors in this process are the following:

Role	Description
Notifier	A contracting authority is acting in this process as an evaluator. A contracting authority shall be responsible for establishing award criteria of a contract. Also they are responsible for the evaluation of such criteria in order to complete a procurement process.
Candidate	An economic operator not yet elected for the award of contract.
Contractor	An economic operator who is a winner of an award process.
Publisher	The publication body is the entity announcing an award notice.

4.1.7.3.4. Subprocesses of collaboration

The process of notification of award implies several subprocesses.
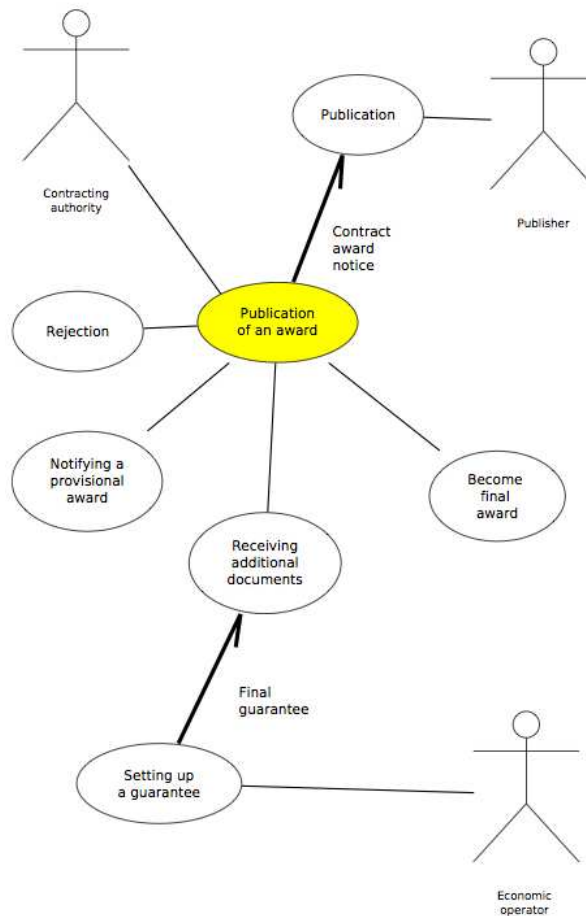
Use Cases 6 Publication of an award

1) Rejection of entering into a contract

In the event that a contracting authority waives entering a contract or decides to restart the procedure, they shall notify it to the candidates and make it public in the OJEU in the case of a contract being subject to harmonized regulation.

A rejection of entering into a contract shall be endorsed by a contracting authority before the provisional award of a contract [43]. Such a rejection shall be justified on grounds of public interest and the discontinuance of the proceedings can be caused by an offence not to be remediable regarding the standards of preparation or award of contract.

2) Notifying and publishing a provisional award

A contracting authority shall proceed to the provisional award of the contract. This provisional award is awarded to a tenderer whose tender is considered the most economically advantageous tender in accordance with the criteria established in the terms of the contract.

A provisional award shall be published in the buyer profile in all cases [44] and be notified to the participants in the procurement process.

When a provisional award is notified to participants in the procurement process, a contracting authority may provide information to contractors regarding guarantees to be set up before the final contract. Also a contracting authority may provide discarded contractors with information regarding the place where to submit appeals.

Before status of an award is changed from provisional to final a period of at least 15 days shall elapse from the date of publication of the provisional award in the buyer profile.

3) Receiving additional documentation

During this elapsed period for a provisional contract to become final, an awarded contractor shall provide documentation stating the following evidences:

- They are up to date with their payments to Social Security

- They are up to date with their payment of tax obligations

- Ability to tender

- Available Media

- Certificate of Final Guarantee

This documentary evidence may be included in the Tenderer Qualification document submitted by a tenderer in the phase of assessment of candidates. Should such a documentary evidence not have been included, all relevant documents shall be sent again.

4) A provisional award becomes a final award

After the deadline, in case an awarded contractor provides all required supporting information in the previous section, a contracting authority may decide for a provisional award to become a final award.

A final award of a contract shall be notified to all tenderers. In certain cases determined by law, a contracting authority shall also publish the notice of the final award in the buyer profile, the BOE (Spain) or the OJEU, in the case of a contract subject to harmonized regulation.

4.1.7.4. Documents

4.1.7.4.1. Contract Award Notice

A Contract Award Notice is a document that is used to specify the publication of an award. It is used both in the case of provisional award and final award of a contract. The structure of a Contract Award Notice document allows publication of various types of awards using a single document.

Contract Award Notice, the document is structured as follows:

- **References to documents.** It allows incorporation of minutes of decision act or references to previous notices in the procurement process.

- **Buyer Info.** Identification of a contracting authority and the original purchaser, if applicable.

- **Details on the contract conditions.** Optionally, an award notice may report on procurement conditions and on the procedure used in the awarding of a contract.

- **Structure of the purpose of a contract.** Information about the purpose of the original contract and the lots requested in the call for tenders document.

- **Resolutions.** Information on the result of a procurement process. There may be 1 .. n Tender Result components.

A Tender Result component contains specific information of an award. A Tender Result shall be created for each Lot awarded to an awarded contractor. Information contained in the Tender Result is the following:

- **General Data.** Resolution code (provisional, final, dismissed, solved), number of tenders received, etc.

- **Awarded contractor.** Information on the awarded tenderer

- **Details on the contract awarded.** This component is called Tendered Awarded Project and is copied from the financial Tender document of the winning tenderer. This component is the same type as the Tendered Project in the tender data model, so that award notices can be generated directly with both information from the Call For Tenders along with Tender awarded in the previous phase.

- **Information on outsourcing.** Conditions that shall be met in relation to outsourcing

This structure of a Contract Award Notice allows different combinations for all types of contracts. It may consist of a contract for works based upon a lump sum price or establishment of a framework agreement for supplies. Consider such different models:

1) Contract without lots awarded to a single contractor. It is the most common case, in which the contract is awarded to a single economic operator taking into account the award criteria set out in the specification document.

An award notice contains information about the project, with the maximum amounts set forth by a contracting authority, and the result with information from the contractor and their tender, description and prices.

Contract Award Notice

ProcurementProject — Project and bidding amounts description

TenderResult

WinningParty — Winning party, contractor

AwardedProject — Tender information with descriptions and prices
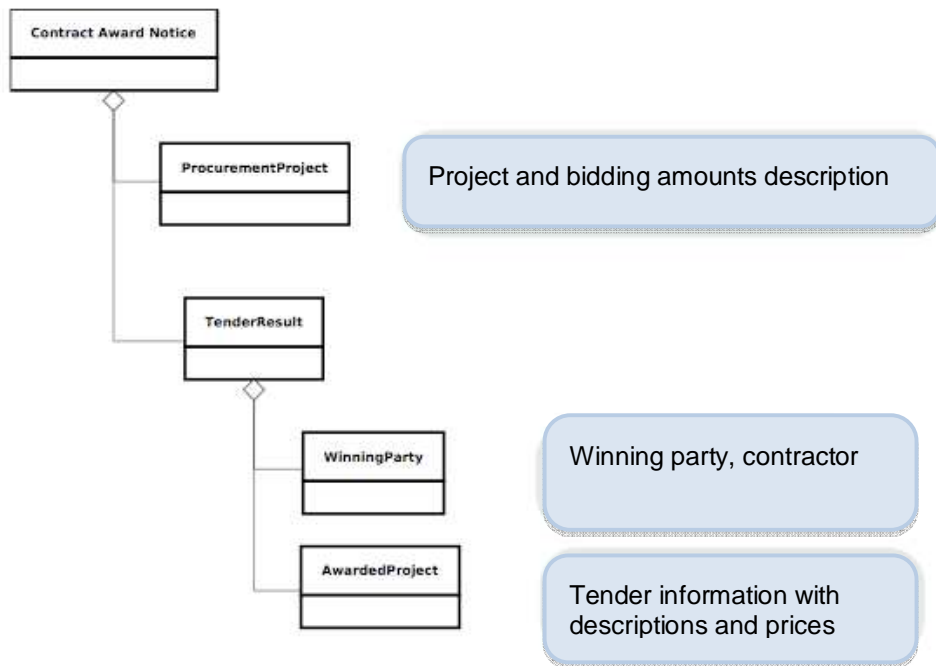
2) Contract without lots awarded to several contractors. In the second case a single project is awarded to more than one tenderer. This is typical when establishing a framework agreement or a dynamic purchasing system.

A contract award notice contains information on the project and amounts provided in the call for tenders document along with a repetition of Tender Result component for each of the tenderers, identifying an economic operator and their tender.

```
Contract Award Notice
└─◇ ProcurementProject ──── Project and bidding amounts description

   └─ TenderResult
       └─◇ WinningParty ──── First winning party.

          └─ AwardedProject ──── First contractor tender
                                 information with descriptions
                                 and prices

   └─ TenderResult
       └─◇ WinningParty ──── Second winning party.

          └─ AwardedProject ──── Second contractor tender
                                 information with descriptions
                                 and prices
```
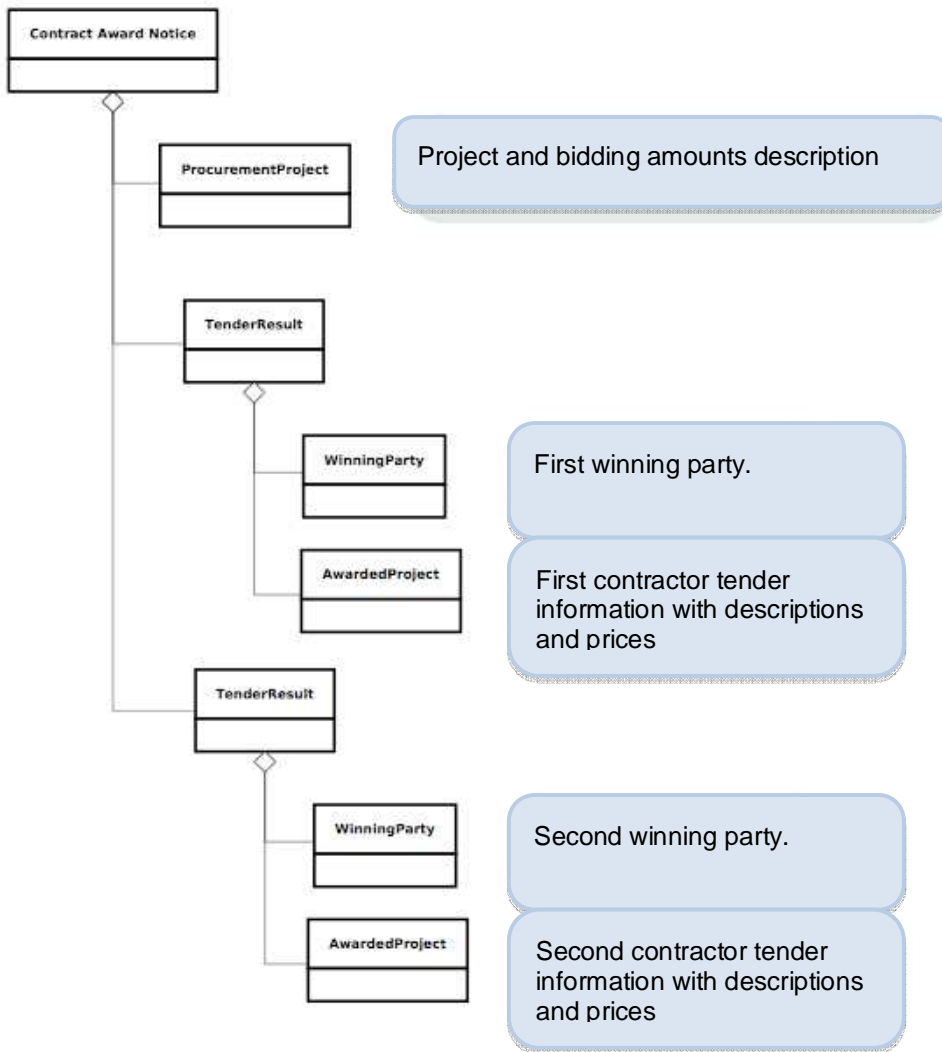
3) Contract awarded to the same contractor, divided into lots. In case of projects divided into lots, a Tender Result shall be defined for each lot, regardless of whether the contractor is the same or not. The main reason is that each Tender Result contains all the information needed to establish the contract.
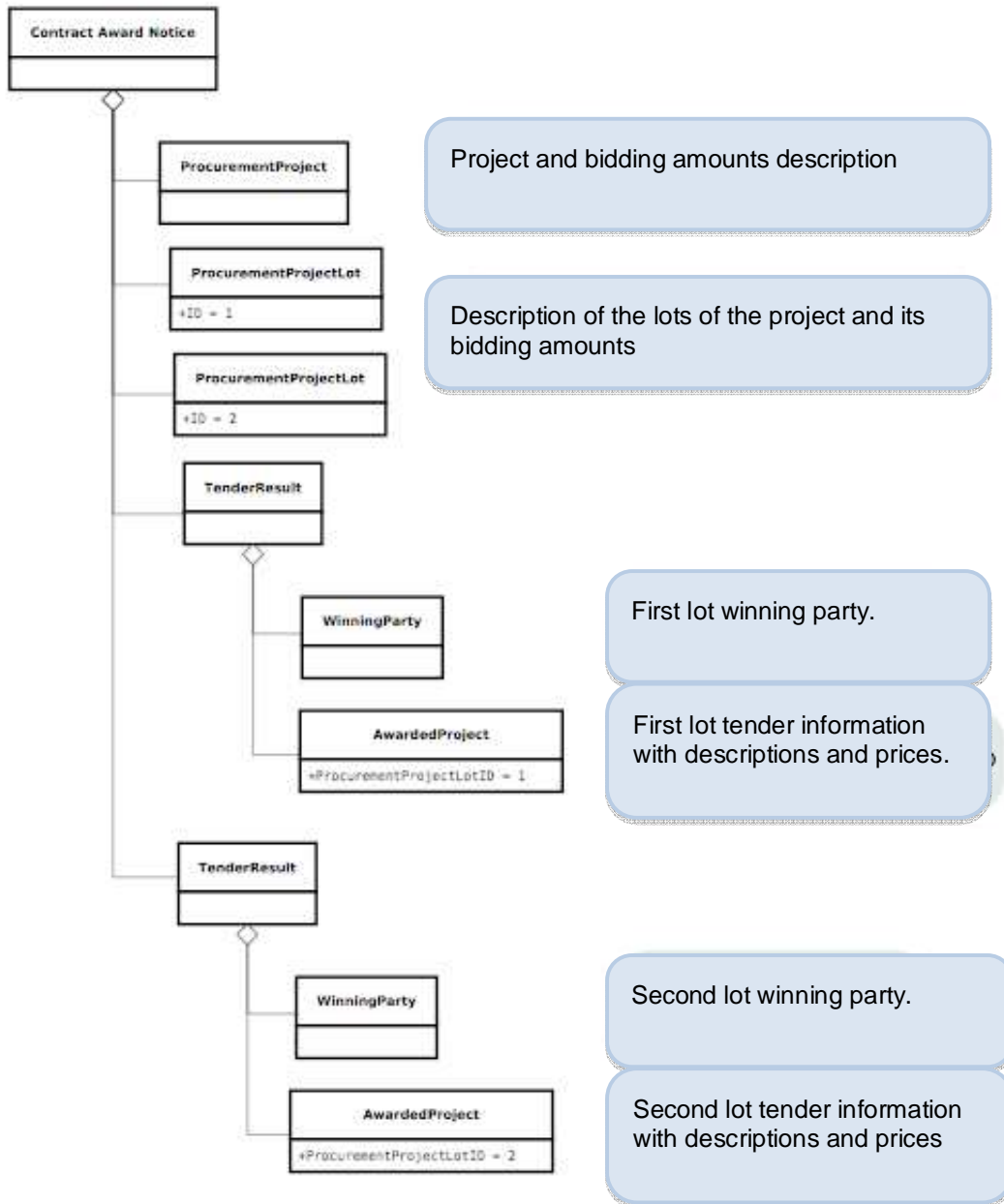
The awarded contractors (winning parties) of lot 1 and lot 2 might be the same.

4) Contract with multiple lots, awarded to different contractors. The most complex case is one that allows to award contracts divided into lots to several contractors. As in model 2, this type of contract award notice are used to establish a dynamic purchasing systems or a framework agreement.

Contract Award Notice

ProcurementProject

Project and bidding amounts description

ProcurementProjectLot
+ID = 1

Description of the lots of the project and its bidding amounts

ProcurementProjectLot
+ID = 2

TenderResult

WinningParty

First lot winning party.

AwardedProject
+ProcurementProjectLotID = 1

First lot tender information with descriptions and prices.

TenderResult

WinningParty

Second lot first winning party.

AwardedProject
+ProcurementProjectLotID = 2

Second lot first winning party tender information with descriptions and prices

TenderResult

WinningParty

Second lot second winning party.

AwardedProject
+ProcurementProjectLotID = 2

Second lot second winning party tender information with descriptions and prices

Lot 2 has been awarded to two different tenderers.

4.1.7.4.2. Tenderer Qualification

Regarding the structure of a Tenderer Qualification document, see 4.1.5.4.2. They are used to prove a series of statements made during the phase of admission or exclusion. This documentary evidence may be part of the original Tenderer Qualification document, or else they shall be sent at this stage by a provisional contractor. In the latter case, a tenderer may use the same Tenderer Qualification document to send documentary evidence they may need.

4.1.7.4.3. Guarantee Certificate

The guarantee certificate shall be generated by the Spanish Caja General de Depósitos or by the corresponding financial institution. An economic operator submits this document to a contracting authority or it can also be directly sent from the guarantee issuer to a contracting authority.

A contracting authority confirms that the final guarantee corresponds to the amount indicated in the notification to the contractor.

The process for generating a guarantee certificate is described in more detail in Section 4.2.4.

4.1.7.4.4. Awarded Notification

A contracting authority sends a notice to the winning party specifying:

- Resolution Report.
- Award result.
- The final guarantee to be set up.
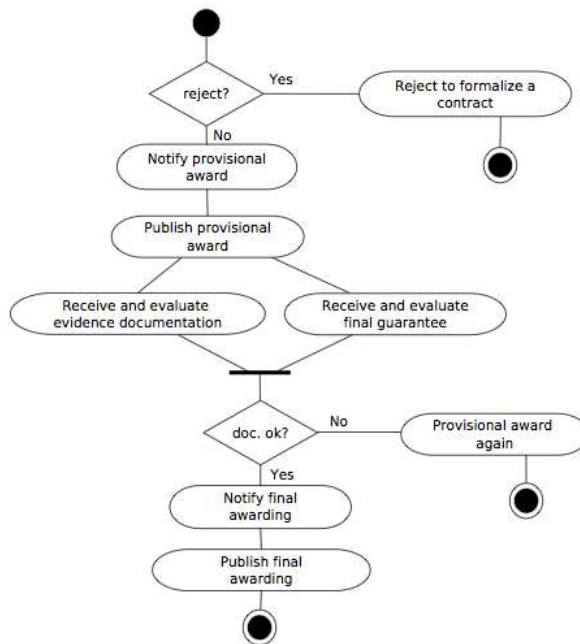- Information on how and where to appeal.

4.1.7.4.5. Unawarded Notification

The notification to provisional non-winning parties of the award shall indicate the following:

- Resolution Report.
- Award result.
- Information on how and where to appeal.

4.1.7.5. Process Detail

The process leading to award a contract is as follows:

Activity Diagram 5 Publication of Award

Activity	Description
Rejection or dismissal	A contracting authority resolves to reject a contract or to dismiss proceedings. Such a decision shall be justified and a contract award notice of resolution shall be sent for publication to appropriate publication bodies.
Notifying a provisional award	A contracting authority generates a notice for a provisional contractor specifying the requirements to be provided by contractor to become a final winning party of an award process.

Also a contracting authority generates notices for those tenderers who have been dismissed to know about applicable reporting mechanisms for submission of an appeal to an award. |
| Publication of a provisional award | A contracting authority shall publish information regarding a provisional award in their buyer profile.

In the case of a contract subject to harmonized regulation, the award notice shall be also sent to the OJEU. |
| Evaluating documentary evidence | A contracting authority shall evaluate documentary evidence provided by a provisional contractor. This documentary evidence may already be held by a contracting authority. It may have been previously submitted along with a Tenderer Qualification document. It also might be the case that the information is already held by the Administration. |
| Evaluating a Guarantee Certificate | A winning party shall provide the certificate of setting up a final guarantee by the value specified in the call for tenders document and specified in the notice to this contractor. Upon receipt, a contracting authority considers whether a certificate is |

	valid according to the parameters set out in the Call For Tenders and in the Awarded Notification.
Publication of a final award	After the statutory period and upon receipt of documentary evidence and a final Guarantee Certificate, a contracting authority might make a provisional award become final. Also a notice may then be sent to tenderers, both to the winning parties and to those who have been dismissed from the award process.
Publication of a final award	A final contract award notice shall be published in the contractor profile or in an appropriate publication, BOE (Spain) or OJEU. The latter is of application in case it is a contract subject to harmonized regulation.

4.1.8. Contract formalization

4.1.8.1. Introduction

The contract shall be completed within a period of ten working days from the day following the notification of the final award.

A Contract document is not modelled in the context of CODICE.

4.2. Economic Operator Processes

An economic operator shall perform a series of processes in order to end up being awarded for a public contract.

Such processes are the following:

- Selection of opportunities
- Establishment of qualification (administrative documents)
- Preparation of tender
- Setting up guarantees
- Formalization of contract

Graphic representation:
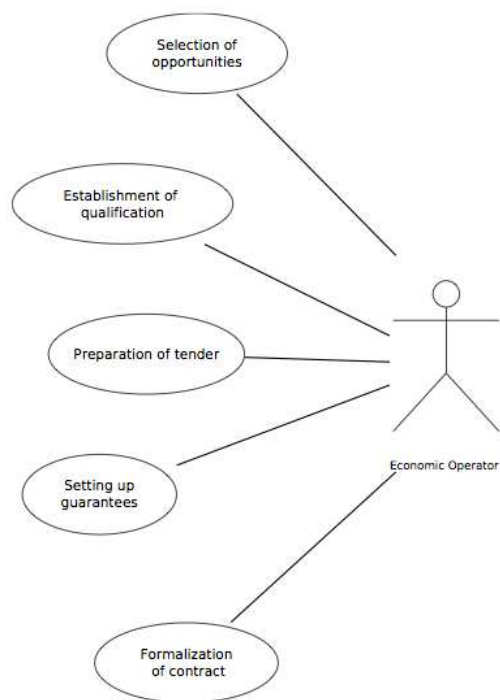
Use Cases 7 Economic Operator Processes

4.2.1. Selection of opportunities

4.2.1.1. Introduction

With the introduction of the Buyer Profile [45] contracting authorities are provided with a mechanism allowing Internet online publication of procurement processes. Thus, economic operators can access needed information to participate in transparent procurement processes.

Having buyer profiles in portals such as the National Procurement Platform in Spain makes it easier for an economic operator to search and select sales opportunities. Similarly, TED [46] acts as a centralizer of business opportunities in the European market.

The process of selection of sales opportunities has support tools on these Platforms or centralized publication services. Nevertheless, exchanges of documents are not yet established to facilitate the selection of opportunities in accordance with the requirements of the seller.

In buyers systems such as portals or buyer profiles, filter systems, notices, RSS [47] can be set out allowing operators to obtain precise information on contracts of their interest.

4.2.2. Establishment of qualification (administrative documents)

4.2.2.1. Introduction

Economic operators interested in participating in a procurement process must prepare a qualification document with administrative documentation required in the call for tenders. As specified in Article 130 of the [LCSP] (Spain), the documentation to be submitted by tenderers is the following:

a) Documents proving legal status of tenderer and, where appropriate, their legal representation.

b) Documents certifying the status of the company, if any, or justifying the requirements of their economic, financial and technical or professional solvency.

c) A responsible declaration of being legally eligible for tendering, including the manifestation of being up to date of compliance with tax obligations and Social Security.

d) In case of foreign companies, a statement of being obliged to the jurisdiction of Spanish courts has also to be submitted.

Depending on the procedure selected by a contracting authority for the implementation of the procurement process, a candidate shall send their qualification document at an early stage of the procedure by means of a request to participate, or - in the case of open procedures - it shall be sent together with the rest of the tender.

In any case, the call for tenders document prepared by a contracting authority is the model that sets the conditions for participation of candidates. These conditions determine the suitability of economic operators to tender and to evaluate their technical and economic capabilities [48] .

The requirements for tenderers may be established within the call for tenders electronic document inside a specific component called Tenderer Qualification. The process of creating the Qualification electronic document by an economic operator can be semi-automated. A template can be generated with all the conditions required by a contracting authority.

An economic operator shall fill in the template with explicit responsibility statements and shall summarize evidence required in the call for tenders document. Finally, all of these documents have to be packaged inside a qualification document before submitting it to a contracting authority.

Upon creation of the document, an economic operator, or a legal representative of the legal entity participating in the competition, shall sign the document with the responsible statements. Also this document shall be submitted to a contracting authority along with a request to participate or with the rest of the tender.

WP2 of PEPPOL [49] is defining a European VCD model to define a common data model in Europe to identify economic operators in a cross-border context.

WP2 of PEPPOL promotes long-term vision for the exchange of attestations between the EU Member States. In the long term, VCD shall be able to adequately fulfil the need for contracting authorities to verify the adequacy of economic operators according to certain criteria. This shall reduce the need to collect and present evidence for an economic operator in a cross-border environment.

This requires a paradigm shift in enhancing the electronic exchange of data and going to the definition of a new generation of certificates and other documents that are not currently available in electronic format. Creating a uniform infrastructure in this heterogeneous field may take some time, since there are many different settings and a wide variety of participants in the process. Changes cannot be equally applied to all parties at a time.

In this sense, current practices of exchange of unstructured evidences in the short term have to be endorsed. Also those practices leading to a smooth, reliable and sustainable exchange of electronic evidences between Member States in the long term have to be reinforced.

To achieve these objectives, WP2 of PEPPOL proposes an approach with different stages of maturity that can be applied depending on the preparation of each Member State and their Government agencies. The aim is to endorse interoperability and exchange of documents with mutual recognition between Member States in the lowest stages of maturity model. Also an electronic exchange of evidence at higher levels is envisaged.

The model of maturity stages for VCD set by PEPPOL is depicted below:
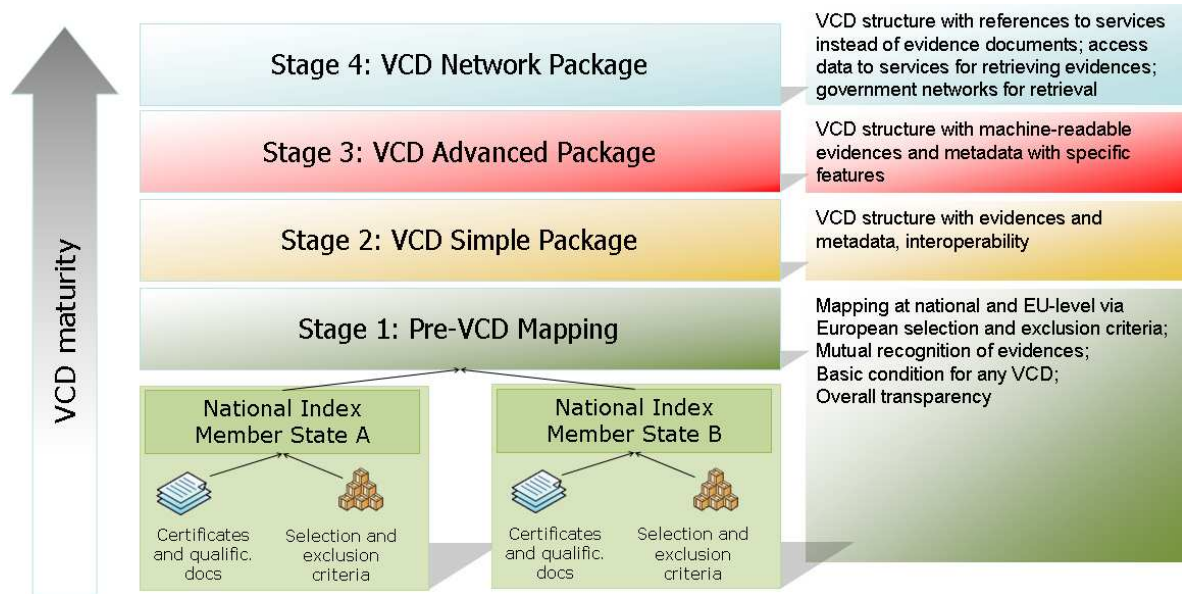
Fig 8 Maturity Model of VCD CEN BII Part 3

The first level of maturity (stage 1) defines a basic model of semantic interoperability that supports mutual recognition of certificates and qualification documents at a EU level.

In Stage 2, economic operators shall be able to compile a VCD document to be submitted electronically to contracting authorities. VCD shall have a structure containing evidences, the structural data of the evidence, translation, etc.

Step 3 consists of having an advanced VCD, where the contents of VCD can be compared, even in cross-border scenarios. In addition, it also focuses on additional services such as maintenance or composition of a VCD for tendering consortia.

Stage 4 consists of making VCD available on a network, with a method allowing for a change of the compilation process. At this stage, a contracting authority receives a VCD but the documentary evidence itself is not attached therein. Instead, a contracting authority may ask for supporting documents upon request to national service providers that host the services of a VCD, or directly to the competent authorities.

A Tenderer Qualification document is a first attempt to attain stage 3 of a VCD as a model of structured data to provide information on the qualifications of the parties participating in a procurement process. Future work in the CEN Workshop shall align models defined in CODICE with those developed in the framework of PEPPOL to obtain a single model that supports VCD national and cross-border transactions.

4.2.2.2. Benefits

The benefits of creating electronic Qualification documents are the following:

Aspect	Beneficiary	Benefit
Automation of analysis	Contracting authority	Upon receipt of electronic qualification documents, contracting authorities can carry out its evaluation with support of information systems.
Ease of submission	Economic operator	Semi-automated generation of a qualification document according to the call for tenders document makes it easier for an economic operator to participate in procurement processes. In such a stage where certifying entities are able to provide evidence electronically and directly to a contracting authority, the need for qualification document could be simplified greatly and even eventually disappear. Nevertheless, this point that matches PEPPOL maturity model Stage 4 still seems quite remote.

4.2.2.3. Process

4.2.2.3.1. Context

Categorisation of contexts according to drivers defined in ebXML.

Categories	Description and Values
Business Process	Procurement (Tender)
Product Classification	All kinds of goods and services
Sector Classification	Public procurement in any sector
Geopolitical	Europe
Official Restrictions	Directives 2004/17/EC and 2004/18/EC and LCSP (Spain)
Role in Business Process	Creation of a qualification document by the tenderer.

4.2.2.3.2. Process Scope

The process of creating a qualification document consists on the creation of a response document to the call for tenders document and sending it to a contracting authority for its subsequent evaluation and acceptance or rejection to the bidding process.

4.2.2.3.3. Actors and roles

In the subprocess of development and submission of the tender, the following actors are involved:

Actor	Description
Contracting authority	A contracting authority is a legal entity or organization that purchases goods, works or services.
Economic operator	An economic operator or a contractor is a participant in a procurement process established by a contracting authority.

These actors play different roles:

Role	Description
Reviewer	A contracting authority evaluates all information and documentary evidences provided by an economic operator.
Requestor	A requestor may be a tenderer applying for admission to a procurement process. They have to submit their qualifications and business abilities.

4.2.2.3.4. Subprocesses of collaboration
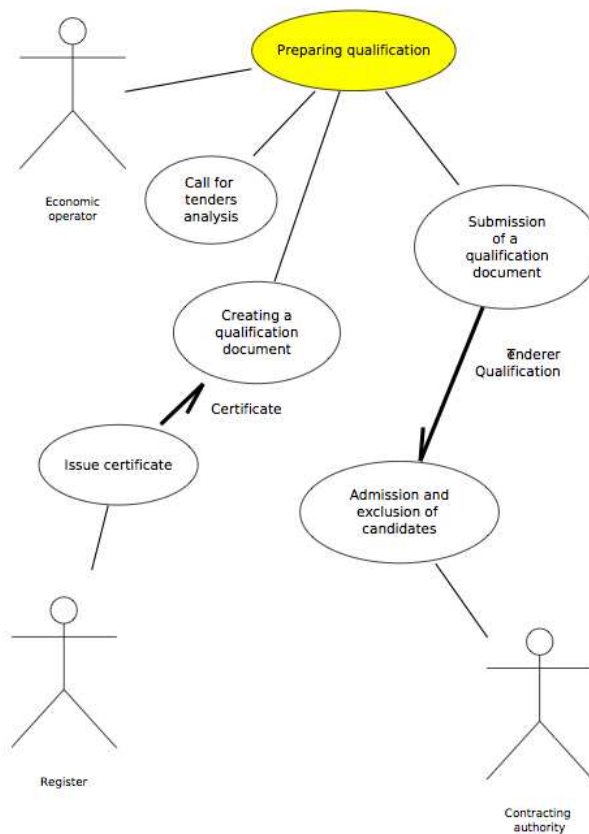
Use Cases 8 Preparing Qualification

1) Call For Tender Analysis

First, an economic operator shall establish a process to analyse call for tenders documents as well as a way to extract all relevant information leading to generation of a Qualification document. Tenderer Qualification component provides an economic operator with information on what elements a contracting authority requires in terms of ability to act and in terms of both technical and economic (financial) capabilities.

Data that can be requested in the call for tenders document is the following:

- Accreditation of candidate's legal personality and representation

- Business Classification

- Proof of both professional and technical solvency requirements

- Proof of both economic and financial solvency requirements

- Declaration on the legal possibility to be eligible to tender

- For foreign companies, a statement of submission to the jurisdiction of the courts of Spain

A call for tenders document may include some suggestions by a contracting authority for an economic operator to know which documents may be provided as evidences.

2) Creating a Qualification document

According to information extracted from a call for tenders document an economic operator can generate a Tenderer Qualification document.

A Tenderer Qualification document has two parallel structures:

- A list with references to evidences. References may be to external URLs or documents may be embedded in the component itself.

- A structure with the sets of capabilities of the tenderer, either at a business classification level or identifying technical or economic abilities and other requirements included in the call for tenders document.

  Each of these statements may refer to one or more of evidences referenced in the list of evidences.

  In some cases it is not necessary to provide evidences in a qualification document. Only a declaration of responsibility by the candidate to tender is required [50] .

A possible evidence presented by an economic operator is the electronic Certificate of the Official Register of Tenderers and Classified Companies. It proves legal personality and representation and business classification or justification of technical and economic solvency. Should an economic operator provide such a certificate, a declaration of responsibility on the invariance of terms expressed therein has to be provided.

In any case, an economic operator shall create all necessary declarative structures and attach to a Tenderer Qualification document supporting documents such as a ROLECE Certificate.

In case of temporary joint ventures among candidates [51], integrated business wishing to participate shall indicate names, circumstances and involvement of each of them. Besides, they shall clearly state that they commit to be formally constituted in case of becoming a

winning party upon an award process. Information regarding participation rate shall be reported in the Tenderer Qualification document. Also every declaration and documentary evidence for each of them has to be provided along with the Tenderer Qualification document.

3) Submission of a qualification document

Qualification document shall be sent along with requests to participate in case of restricted and negotiated procedures or competitive dialogues.

In the case of open procedures, a Qualification document can be sent along with tender documents.

4.2.2.4. Documents

4.2.2.4.1. Call For Tenders

A Call For Tenders document has a special structure for providing candidates with information regarding requirements to be met by tenderers to participate in a procurement procedure.

The structure can even indicate which supporting documents shall be submitted with a qualification document. [52]

4.2.2.4.2. Tenderer Qualification

A Tenderer Qualification document is a document to be generated by an economic operator or a temporary joint venture in order to declare their ability to tender, their technical and economic capabilities as well as other requirements set out in the call for tenders document. This allows a contracting authority to admit them to a tendering process. [53]

4.2.2.4.3. Tender Envelope

A Tender Envelope document is a data model allowing bundling data related with a contract, a contracting authority and the tenderer. It also allows for embedding a document. Besides, it gives the possibility of encryption of the document content. This allows to maintain the confidentiality of the document sent until its time of disclosure.

4.2.3. Preparation and submission of tenders

4.2.3.1. Introduction

A process leading to generation of a tender is carried out by an economic operator in response to the needs a contracting authority has previously expressed by means of a call for tenders document.

There are different tendering procedures as seen in the previous section. However, the generation of tenders can be viewed as a common process. In any proceeding it is necessary to create a document which specifies the qualifications of the company or group of companies to tender (see 4.2.2.) along with technical and economic characteristics of the tender.

Depending on the procedure for the award of the contract, the process of submission of a qualification document along with economic and technical proposals may vary. Thus, in the case of open procedures, for example, the following documents have to be submitted: a provisional guarantee - if required in the call for tenders document - and a tender document or documents. In this section, we focus on the process of generating these documents: tenders. Also special

attention is paid to the way in which an economic operator can benefit from the structure of a call for tenders document and from structuring tender documents to improve the generation of tenders process.

It is noteworthy that in accordance to the law [54] , "when in a tender, open or restricted, automatically (formulas) evaluated criteria are attributed a lighter weighting than those criteria whose quantification depends on value judgments, a committee counting at least three experts has to be summoned. These experts with appropriate qualifications have not to be related to a contracting authority proposing the procurement process. This committee shall then be in charge of performing an evaluation of criteria based upon judgment values. Evaluation can also be requested from a specialized entity, duly identified in the specification document". And still "The evaluation of tenders according to measurable criteria by simply applying formulas shall be made after the evaluation of those other criteria requiring judgment values." This means in case objective and subjective criteria concur, subjective criteria shall be evaluated in the first place before the objective criteria such as price are evaluated.

In these cases it is therefore necessary that economic operators divide their Tender in different documents, conducting separate submissions, allowing a contracting authority to open the documents at different times.

The structure of the different tender documents is always the same. Nevertheless, a code in the header of documents allows differentiating the type of proposal, that is, a technical proposal, a technical and economical proposal, or a financial proposal. Also this qualifier is used to indicate that a document is an indicative tender to join a dynamic purchasing system.

As for the content of tender documents, they are established by the requirements of the call for tenders document:

- **Technical tender.** A technical proposal allows the candidate to define all technical aspects of their bid that shall allow the expert committee of a contracting authority to undertake an evaluation of subjective criteria established in the call for tenders. The subprocess for the evaluation of subjective criteria [55] in the award of contracts states that it is essentially manual. A committee of experts shall be summoned to analyse tender documents for the establishment of the score and sorting to obtain the most advantageous tender.

  This manual process of evaluation by a contracting authority implies that the content of the tender will be basically unstructured.

- **Technical and economic tender.** In cases where there are only objective criteria or a single criterion to consider, an economic operator may submit a single document with the technical and economic aspects of a tender. In this case a tender document shall define the goods, services or works and the price committed by the tenderer.

  In case a tender is based on multiple criteria, this document shall set out the answers to objective award criteria with measurable values to allow a contracting authority to make an automated assessment of the tenders received.

- **Financial tender.** A call for tenders document may establish both objective and subjective criteria. In such a case a candidate shall create two types of proposals: a technical proposal and a financial proposal. In the latter type of proposal, the tenderer shall specify the prices of goods, services or works tendered and the response to objective award criteria, to facilitate the work of comparison of tenders by a contracting authority.

- **Indicative tender.** In dynamic purchasing systems, receipt of an indicative tender is required to become part of the tenderers admitted thereto. An indicative tender allows a tenderer to set those indicative parameters of their tenders to submit in the context of a DPS.

Another important point to take into account when making tenders is that each lot identified in a call for tenders document (for those call for tenders with lots) shall be part of a separate contract. For this reason, it is necessary for the tender document to differentiate tenders corresponding to different lots. This establishes a specific structure for each of them. Tendered prices, for example, are established for each lot. They are not established on the basis of a tender overall price.

Furthermore, it is also possible that the disclosure of tenders for various lots is carried out in different disclosure events. There may be as many Tender documents as lots are requested in the call for tenders document.

Upon creation of a Tender document (or documents), an economic operator shall submit them to a contracting authority. Safety requirements intended to ensure non-disclosure of the contents of Tenders until the time of their disclosure being established in the call for tenders documentation in accordance with the Directive are noteworthy. Annex X of Directive 2004/18/EC establishes requirements for devices for electronic receipt of tenders or requests to participate. These devices shall ensure that:

a. Electronic signatures of the tenders received are in conformity with national provisions concerning electronic signatures;

b. Exact time and date of receipt of tenders can be accurately determined;

c. It can be reasonably assured that no one has access to data transmitted before the deadlines specified in the call for tenders document;

d. In case of violation of the prohibition of access, it can be reasonably assured that the violation is detected clearly;

e. Only authorized persons may set or change the dates for received data to be disclosed;

f. Only a simultaneous action by authorized persons can allow access to tenders;

g. Simultaneous action by authorized persons shall give access to tenders only upon completion of the deadline specified in the call for tenders document;

h. Data received and disclosed in accordance with these requirements shall remain accessible only to authorized persons.

It is necessary to establish a mechanism to put tender documents in an envelope or package regardless of the system for receipt each contracting authority may use, and the mechanisms that can ensure the confidentiality of the documents submitted by economic operators until the date of disclosure of tenders. A study of these systems and mechanisms is beyond the scope of this document herein. In this sense, the format and structure of an Envelope document is defined allowing the submission of tender documents to a contracting authority.

4.2.3.2 Benefits

The benefits of creating and sharing electronic tenders are the following:

Aspect	Beneficiary	Benefit
Automated Creation of Tenders	Economic Operator	An economic operator may establish automated processes that allow them to create electronic tender documents, according to features

		described in a Call For Tenders document, published by a contracting authority.
Automation of an Award process	Contracting authority	A contracting authority benefits from electronic exchange of tenders. They can establish automatic mechanisms for evaluation and management of tenders.

4.2.3.3 Process

4.2.3.3.1. Context

Categorisation of contexts according to drivers defined in ebXML.

Categories	Description and Values
Business Process	Tender
Product Classification	All kinds of goods and services
Sector Classification	Public procurement in any sector
Geopolitical	Europe
Official Restrictions	Directives 2004/17/EC and 2004/18/EC and LCSP (Spain)
Role in Business Process	Creation of tenders by the tenderer.

4.2.3.3.2. Scope of the process

The process of preparing and submitting a tender includes creation of electronic documents in response to a call for tenders document and its submission to a contracting authority.

4.2.3.3.3. Actors and roles

In the subprocess of development and submission of a tender, the following actors are involved:

Actor	Description
Contracting authority	A contracting authority is a legal entity or organization that purchases goods, works or services.
Economic Operator	An economic operator or a contractor is a participant in a procurement process established by a contracting authority.

With the following roles:

Role	Description
Buyer	A contracting authority is acting as a buyer.
Tenderer	An economic operator is acting as a tenderer. They submit a tender based upon the specifications defined by a contracting authority.

4.2.3.3.4. Subprocesses of collaboration

A creation of tenders includes the following sub-processes:
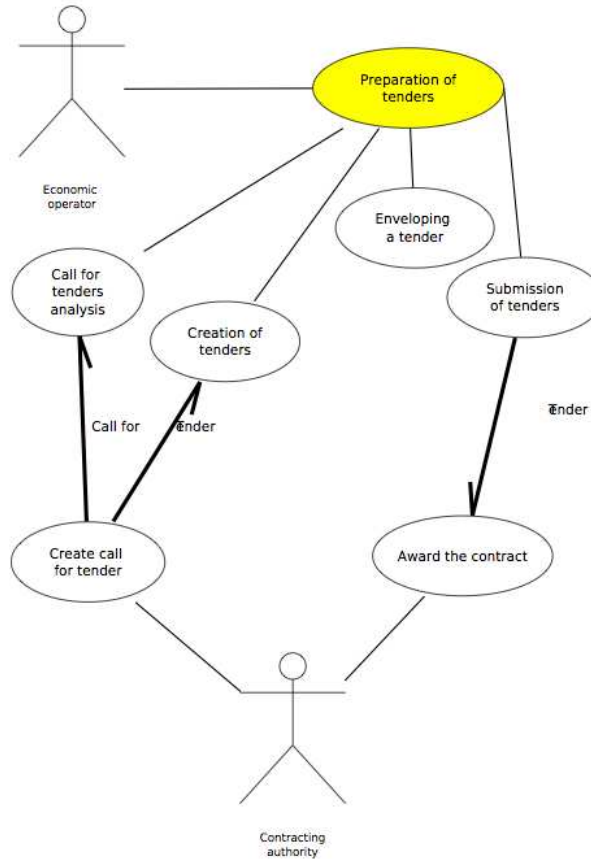
Use Cases 9 Preparation of tenders

1) Analysis of a Call For Tenders document

To create semi-automated tender documents, an economic operator shall be able to download an electronic Call For Tenders document. This document provides a user with all relevant information necessary to respond to a call for tenders.

Basic elements to consider in the Call For Tenders at the time of generating a tender template are the following:

- A Tender Preparation class aims at defining documents of Tender type that an economic operator shall prepare. It also defines and specifies their contents. An economic operator is provided with this information regarding the number of documents to be prepared and documents to include. A process to generate templates of Tender documents and generation of a containing envelope may be

automated. Nevertheless, the annex of specific documents, which may be specified by means of a textual description, can not be automated the same way.

- Procurement Project class describing the purpose of a contract. Depending on the procurement process, the level of detail in the Procurement Project may be higher or lower, reaching a level of detail in the product or service or breakdown of lines, for example to describe work units.

- Lines of detail in Procurement Project elements are defined by the RequestForTenderLines component. A line level product or service can be described using this component. The UBL library has a component called Item that allows the definition of products and services and this element is added to the line described above. A call for tenders document contains an Item element, but in this situation it is not used to describe a particular product or service, but to describe a product or service requested, usually on the basis of its properties or features.

- If a contract is divided into lots, an economic operator shall take this into account when creating their tenders since it shall create a structure for each of the lots in which to participate. A Tendering Process element contains an encoded property called PartPresentationCode which allows an economic operator to know whether it is compulsory for them to submit a tender for each of the lots or whether they can decide to dismiss some of them. In addition, in the TenderPreparation element included in the call for tenders, information is provided on the number of different envelopes that has to be created and the information included in each tender document.

- Contracts defined by a contracting authority may allow the submission of tenders with variants. In this case, a Tendering Terms class in Call For Tenders document specifies that variants are allowed through the Variant Constraint indicator. This class also includes the maximum number of variants allowed and a descriptive text that specifies on what elements alternatives of tender can be submitted.

  Upon creation of tenders, the possibility to create variants shall also be taken into account.

- Another element to consider upon creation of a tender by an economic operator is the award criteria defined by a contracting authority. A tenderer can know the way in which a contract shall be awarded by a contracting authority.

  o On the basis of multiple criteria, or based upon a single criterion (price)

  o Lump sum or unit prices

  When a contracting authority decides to award a contract on the basis of multiple criteria, a response to award criteria shall be provided with a Tender document. These award criteria will be used by a contracting authority to evaluate and finally award tenders.

  If specific conditions of tender divided in lots are not defined, header-level conditions shall be of application. Nonetheless, award criteria, if any, shall be responded at a lot level.

2) Creation of tenders.

According to elements provided in a Call For Tenders document discussed in the previous section, an economic operator may create their tender document(s).

An economic operator may generate the required Tender documents in the first place. Each Tender document shall refer to a contract and indicate the type of tender.

Different information has to be provided in Tender documents by an economic operator according to the type of the Tender document being submitted:

- **Technical proposal** documents are used to provide technical information on the project. This information has to be used by a committee of experts to evaluate subjective criteria set forth in the call for tenders document. For this reason, this document is not a highly structured document. This paper is basically concerned about electronic information transport, and the use of mechanisms set by a contracting authority to preserve non-disclosure and to govern disclosure thereof. However, by the very nature of this type of document automated processes of receipt cannot be defined. This is the main reason why its content cannot be very structured.

- An economic operator shall take into account the content of Tender Preparation component so as to include in this document all documents requested in the call for tenders document. Thus, a committee of experts shall be able to evaluate them.

- An economic operator shall provide technical-economic and economic tender documents with a structure allowing for discrimination of the following:

  o Lots. Each lot shall become a contract during the process of contract awarding. It is also possible that a single economic operator is not a winning party for all lots awarded. For this reason it is necessary that lots are clearly differentiated in the call for tenders document.

  o Variants. Similarly, if presentation of variants is allowed, an economic operator shall separate the content of a tender from another tender stating different variants on each of them.

Once these two issues have been solved, Tender documents shall contain a structure that allows description of goods, services or works. A Tendered Project component shall be used by an economic operator to define all the elements of their tender. It is clear that not all tender processes require the same level of detail in the tenders. Some tenders require a detailed description of supplies and others may be more general, requiring only a generic description and a description of an overall price.

To facilitate the awarding process to contracting authorities, in contracts whose award depends on multiple criteria, it is necessary for economic operators to inform about their responses to award criteria defined in the call for tenders document. To this end, an economic operator shall include a summary table of responses to these award criteria to allow sorting of tenders based on objective criteria declared by the tenderers. [56]

For each objective award criterion defined in the call for tenders document (or defined for each lot, if any), an economic operator shall incorporate a component of response to this criterion. An Awarding Criteria Response class allows the economic operator to establish the values of the award criteria required by the contracting authority.

- **Indicative tender documents** are treated as financial tenders.

3) Enveloping a tender

Once Tender documents are created containing information defined in the call for tenders document, an economic operator shall proceed to wrap them all into an envelope to be submitted to a contracting authority.

Packaging (into an envelope) is not a purely technical event, acting as a technical router serving as an electronic document under a specific communications protocol. Under a legal standpoint, tender documents cannot be disclosed before a certain date. Therefore a document that acts as a paper envelope for tenders has a business value. It is essential to identify a number of business objects in it so that a contracting authority can handle it without accessing the contents of a Tender document, which as provided by law [57] , shall remain reasonably safe and still until the date of disclosure of tenders.

This document shall contain the following elements so that a contracting authority may be able to identify its contents and sender:

- Data of the economic operator or sender of the tender.

- Details of a contracting authority or receiver of the tender.

- Details of the contract (file number, name, ...)

- Identifier of the envelope that can be related to a TenderPreparation component in the call for tenders document, and a corresponding tender disclosure event.

- Documents attached with tenders, qualification documents and guarantees

The type of encryption or other mechanisms related to security to be implemented in the tender document are beyond the scope of this analysis herein.

4) Submission of tenders

In the end, an economic operator shall submit the tender to a contracting authority. Submission of a Tender can be performed in two ways:

- Through an upload HTTP or by WS, i.e. by accessing the website of a contracting authority or intermediary service (such as the Spanish National Procurement Platform) and doing an upload or making a call to a Web Service established for that purpose.

- Using an asynchronous transport network, as can be done for other types of documents such as invoices or orders. This could only be done in case of encryption of tender documents attached in envelopes according to restrictions defined in the law regarding confidentiality of tenders.

4.2.3.4. Documents

4.2.3.4.1. Call For Tenders

A Call For Tenders document contains relevant information to enable the automated creation of Tender document templates. Full automation of the process for creation of tenders based on an electronic call for tenders document is currently not feasible. However, a process for creation of tender templates may be automated according to corresponding call for tender documents.

This is the aim of the components related to the creation of tenders in the call for tenders document. The basic elements to consider in the document Call For Tenders to create a template for a tender are the following:

1) A class named Tender Preparation aims at defining Tender document type for an economic operator to prepare as well as a specification of its content. Tender Preparation class includes the following elements:

- Envelope identifier shall be reported in the envelope containing the Tender document.

- A code to specify whether the tender document is a technical, a technical and financial, an economic or an indicative tender.

- Identifiers of lots to which a tender refers to within this envelope.

- Textual description of contents of this envelope.

- List of references to documents to be included in this envelope.

2) A class that describes the purpose of a contract. Its content is the following:

- Descriptive information of the purpose of a contract, name and description.

- In case of service concession projects, maximum rate and description.

- Categorization of the type of contract, which an economic operator may use as one of the first search filters for business opportunities.

- Maximum amounts and taxes applicable to the project.

- Classification according to a scheme defined by a buyer. CPV is used [58] usually. However other national classification schemes may be used, if necessary. This element makes sense for an economic operator. It facilitates filtering, searching and selecting of business opportunities when they access an electronic procurement portal.

- Specification of location where works shall be performed or services or goods have to be delivered.

- Period of time scheduled for realisation of a project. In case of a framework agreement or a dynamic purchasing system, scheduled period matches scheduled time for the framework agreement or the dynamic purchasing system itself.

- Information about contract renewals or extensions.

- Lines of detail to specify deliverables of each project or lot. Below such detail lines are fully described.

3) Detail lines are defined with the following content:

- Information about quantities. A call for tenders document may define amounts or ranges .

- Information about maximum amounts per line.

- Information about delivery terms.

- Information on unit prices. In case of products and / or services, or units of work, prices for each quantity and location can be detailed.

- Period of validity of guarantee for products and services.

- Information about products or services.

- Sublines. Lines can be broken down into sublines of the same type in order to define hierarchical structures. It is especially relevant for works contracts where a call for tenders document can describe units of work by means of these recursive elements.

4) A contracting authority may define the following elements to describe products or services within lines in lots or at a general level:

- Name and textual description of the product or service

- References to specification documents. This item can be used by contracting authorities to describe technical specifications of a particular product or service.

- Information about product classification. CPV classification system is usually used in such cases. Nevertheless, more specific classification systems may be used to allow economic operators to obtain more precise information on requested products and / or services.

- Characteristics description. This item allows for the definition of products and services according to their characteristics. A name and a value of each characteristic of a required product as well as a range of values to be met by this characteristic may be established.

5) Components to define lots of a contract, if any. The component shall have the following structure:

- A lot identifier, needed to be identified at tender level.

- An association with the aforementioned class, which allows describing the corresponding lot.

- An association with tender conditions. This allows for the establishment of specific conditions for this particular lot. Specific conditions to be met by tenderers or for the awarding process can be defined at lot level.

6) Contracts defined by a contracting authority may allow submission of tenders with variants. In such cases the following elements have to be described:

- Indication of whether a contracting authority accepts variants.

- Maximum number of variants accepted

- Descriptive text specifying elements that may include variants in a tender.

7) A public authority shall indicate how to award the contract or the different lots by stating the following:

- Type of awarding criteria, which defines whether the contract is awarded based upon multiple criteria or on the basis of a single criterion (price)

- Method of evaluation of tender prices, either lump sum or unit prices, of tendered goods or services.

In case of an award based on multiple criteria, those award criteria may be described in the call for tenders document through the definition of the following components:

- Identifier that lets relate responses provided in the tender with each award criterion

- Criterion code, which specifies whether a criterion is subjective or objective. Responses to objective award criteria shall be reported in financial or technical and financial tender documents when a contract is awarded on the basis of multiple criteria.

- Textual description of a criterion.

- Weighting of a criterion with respect the other criteria defined in the call for tenders document.

- Method of calculation to specify how score is calculated among all received tenders, for example, fraction of the ideal with minimizer criterion .

- Minimum and maximum amounts for the criterion. Range for a tendered value submitted by an economic operator.

- Minimum and maximum amounts for the criterion. Range for a tendered value submitted by an economic operator.

- Subcriteria. A criterion can be broken down into several subcriteria. Subcriteria have the same type as criteria.

Specific award criteria can be defined for each lot. In case specific conditions are not defined at lot level, criteria at a header level applies.

4.2.3.4.2. Tender

A Tender document is a document that uses the tenderer to describe electronic tenders. On the same tendering procedure, a single tenderer (or a group of tenderers in a joint venture) may submit more than one electronic Tender document if required in a call for tenders document.

Different Tender documents are created only for the purpose of disclosing them at different times during the award process. This is necessary in case of proceedings whose award is based upon multiple criteria, some of which are not objective. This implies to summon a group of experts to analyze and evaluate technical proposals of the tenderers, or intervene in various disclosure events in case of contracts divided into lots.

A single Tender electronic document is enough for tendering to all lots and all variants. This does not preclude a contracting authority may request the submission of more Tender documents through the Tender Preparation element analyzed in the previous section.

The main structure of a Tender document is as follows:

- Identifying data of the tender and contract file.

- Date and time of issue of the tender document. These are not the date and time of presentation, which shall be facilitated by the service established for this purpose by a contracting authority.

- Period of validity of the tender, which in any case cannot be shorter than that of the award of the contract.

- Documents attached. A tender can include multiple annexes, either embedded in the document itself or referenced as external URIs.

- Information about a tenderer, information about power of attorneys and representation.

- Information about a contracting authority and the original purchaser when purchased through a purchasing hub.

- Information about a signature and the signer. [59]

- Information about the tender. This information is broken down into the following components:

  o Lot identification. If the contract is divided into lots, each lot shall be identified as specified in the call for tenders document.

  o Identifier of a particular variant. In contracts where variants are accepted, an economic operator shall repeat all this structure, one for each variant.

  o In case of projects of public works concession the amount of the fee and its description shall be specified .

  o Tender prices are specified at this level since contracting authority awards at lot level. Thus a contracting authority may be provided with prices per lot.

  o Similarly, total taxes are also set at this level.

  o The detail of the tender is set in the tender lines, where an economic operator defines the products and services that shall be facilitated as a result of an award. A component for the introduction of tender lines is composed of the following:

    ▪ Amount of goods or services tendered.

    ▪ Total amount for a tender line

    ▪ Total taxes to be applied to a line.

    ▪ Additional references to documents such as specifications, plans, photographs, applications, etc.

    ▪ Description of product or service. The product or service information is described below.

    ▪ In some cases it is possible to define a price for products and services depending on the location of its supply and the quantity supplied

    ▪ Information on guarantee and entity of issue.

    ▪ Each line can be broken down into tender sub-lines to describe specific products or services. This is useful for example to define the composition of work units in a contract of works .

- In response to the award criteria set out in the call for tenders to be awarded by multiple criteria, an economic operator may define a list including:

  o A reference to the ID of the original award criteria laid down in the call for tenders.

  o Textual description of the original award criteria and response.

o Quantity or value associated with the award criterion of a tender. For example, it must be possible to indicate that the number of senior engineers to participate in the project is 25 or that the amount of a given product is xx Euros.

o Criteria for the award of the tender can be similarly broken down into other criteria. Responses to award criteria may also have subordinate responses.

4.2.3.4.3. Tender Envelope

For submission of tenders to a contracting authority it is necessary to have an electronic envelope for handling the electronic document received without having to disclose or access its content. Encoding of tenders or mechanisms which guarantee non-disclosure of a tender are beyond the scope of this analysis. However, it is required to have a mechanism that avoids the need for handling confidential documents.

To this end, a new modelled document to serve as an envelope for confidential documents is required. This shall be a document with business value. It is not just a wrapper of a transport protocol but an application-level document that shall be addressed both by systems of economic operators and by those of contracting authorities.

Elements to conform a tender envelope are the following:

* Envelope identifying data that allows to establish relationships with data defined in a Call For Tenders, where the type of content and, in case of lots, lots to be included are established.

* Data identifying an economic operator. Without the need to access the contents of a tender document, a contracting authority shall be able to know who has submitted a tender to a particular tendering process.

* Data identifying the recipient or a contracting authority to whom a tender is submitted.

* Identification details of the tendering process. A contracting authority may be able to associate each document with a relevant tendering procedure.

* References to documents contained in the envelope.

4.2.3.5. Process Detail

The process to be completed by an economic operator to create and submit a tender to a contracting authority is as follows.
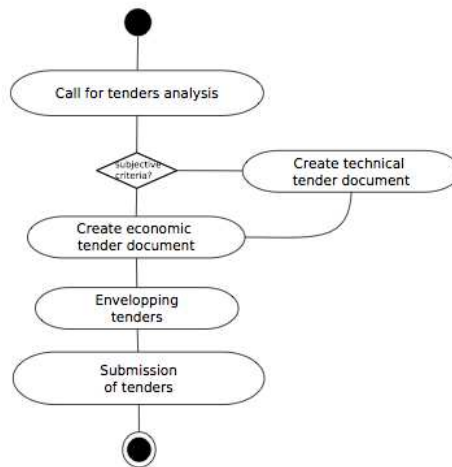
Activity Diagram 6 Preparing a tender

Activity	Description
Gather information from call for tenders or notices	An economic operator shall obtain information from a call for tenders document to create the tender documents. Based on the structure of a call for tenders document templates can be created to generate a tender document electronically.
Creation of a technical tender document	If a technical proposal document has to be generated, an economic operator creates a corresponding model including unstructured documents defined in the call for tenders. A legal representative of a tenderer shall sign the document containing the technical tender.
Creation of a financial (economic) tender document	On the basis of a template created from the call for tenders, an economic operator creates a financial proposal document. A legal representative of a tenderer shall sign the document containing the financial tender.
A document inside an envelope	An economic operator creates an "electronic envelope" document to which all Tender documents generated in the previous activities are appended. A discussion on a system of maintaining confidentiality of tender documents is beyond this analysis. Each contracting authority may establish a model for preservation of confidentiality according to their preferences and level of user confidence of their system.
Submission to a contracting authority	There are different ways to submit these documents to a contracting authority. You can base the submission system on an secure access web-based system or through the exchange of messages using messaging systems or value-added networks. Date of submission of tenders is critical for the tendering process, so it seems advisable to submit tender documents by using portal or platform-type systems

> (such as the National Procurement Platform) which can give evidence of the act of submitting a document. Message exchange networks, though reliable and secure, cannot guarantee delivery of the documents in time and hour, i.e. before the deadline for submission of tenders.

4.2.4.Setting up and communicating guarantees

4.2.4.1. Introduction

1. *Types of guarantees*

Title IV of Book I of the [LCSP] defines the guarantees required for economic operators in the process of contracting with the public sector. As specified in the articles of this Title, there are three types of guarantees:

1. **Provisional Guarantee** [60] **:** a contracting authority may require tenderers to establish a guarantee to ensure maintenance of their tenders until provisional award of contract.

2. **Final Guarantee** [61] **:** An economic operator who is awarded a provisional contract shall provide a contracting authority with a guarantee of 5 per cent of the awarded amount.

3. **Complementary Guarantee** [62] **:** In special cases, a contracting authority may establish another additional pay of up to 5 percent of the amount of an awarded contract in the call for tenders document, in addition to a final guarantee,. Final guarantee may then reach up to 10 per cent of a contract price.

2. *Forms of constitution*

Mechanisms to set up such guarantees [63] are also described in this Title:

a) Cash or securities of Public Debt.

b) Bank guarantee. Issued by a bank, savings bank, credit union, financial institution of credit, or mutual guarantee company authorized to operate in Spain.

c) By contract of an insurance bond. Concluded with an authorized insurance agency.

d) By immobilization of securities. A certificate shall be presented stating the date of immobilization, securities subjected to guarantee bear a nominal value equal to or exceeding the required guarantee, and a carrying value equal to or greater than 105 per 100 of value of a required guarantee.

The mechanism of creation of the security and information to the contracting involves several actors: an economic operator, a financial institution, a contracting authority and the Caja General de Depósitos (CGD).
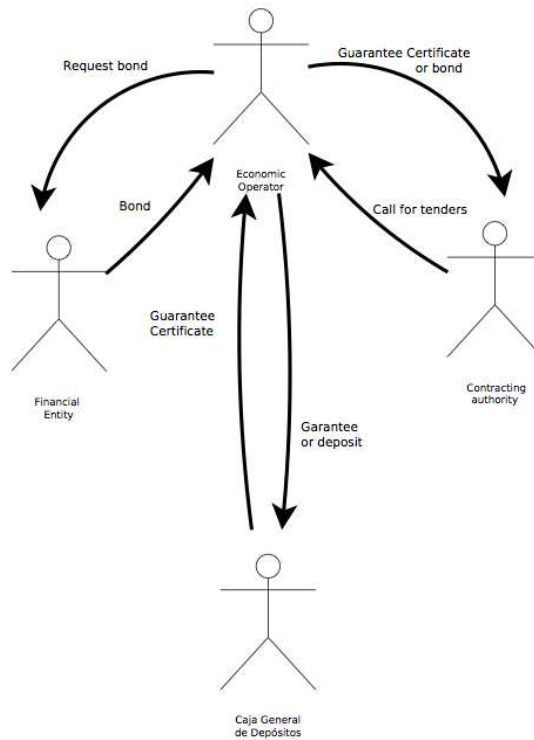
Fig 9 Setting up a guarantee

Depending on the type of guarantee and the way it is formed, an economic operator shall provide assurance to a contracting authority or to the Spanish Caja General de Depósitos (CGD). Should the latter case apply, a certificate shall be issued for an economic operator to send it to the contracting entity. This certificate shall be used as a justification for setting up the guarantee.

	Provisional	**Final**	**Complementary**
Cash	CGD	CGD	CGD
Bank guarantee (surety)	Contracting Authority	CGD	CGD
Insurance bond	Contracting Authority	CGD	CGD
Immobilization of securities	Contracting Authority	CGD	CGD

Table 1: Entity where guarantees have to be set up

Therefore, automating the process of setting up guarantees implies that an economic operator or financial institution are capable of generating a guarantee electronic document and that the Spanish Caja General de Depósitos and the contracting authority can receive and process this document. Moreover, in case that a guarantee is deposited in the Caja General de Depósitos, they shall be capable of generating a guarantee certificate for the contracting authority which can be interpreted or verified by the latter.

3. Verification of powers of attorney

Validity of guarantees or surety insurance contracts requires approval by the representative of the guarantor or insurer having enough power of attorney. These powers are approved in advance and once by the Asesoría Jurídica de la Caja General de Depósitos or by the Spanish Legal Service of a particular province in case of branches or other equivalent bodies of the Autonomous Communities or municipality contracting authorities.

Therefore, verification of validity of a guarantee or surety insurance contract requires consultation with the Spanish Caja General de Depósitos or with the State Legal Service of the province. Such consultation shall be performed on the actual existence of powers of attorney by the signatory or signatories of a guarantee or contract.

4. Global guarantees

An economic operator can set up a global guarantee with the Spanish CGD, or an equivalent entity, which help secure the responsibilities arising from the execution of all contracts entered into with one or more contracting authorities. This guarantee may be set up with a surety bond (bank guarantee) or a surety insurance contract with an authorized entity.

In this global guarantee, the Spanish CGD or the actual entity where a guarantee is set up, shall issue a certificate related to a particular contract. Thus the amount of this particular contract is immobilized and will not be released until cancellation of the guarantee.

4.2.4.2. Benefits

The digitalization of the process of setting up guarantees may reduce time and remove manual processes. Also it may avoid mistakes and increase efficiency in the system.

Aspect	Beneficiary	Benefit
Agility	Economic operator	An economic operator may resubmit a guarantee issued by financial institutions or insurance companies to a contracting authority or the Spanish CGD, as appropriate.
Process Automation	CGD	Caja General de Depósitos can automate the process of booking the guarantee and reply with the Guarantee Certificate.
Automation of Processes	Contracting authority	Contracting authority also benefits from the digitalization of the process. They may compare a received guarantee or Guarantee Certificate with the Spanish CGD.
Chance for process improvement	Everyone	Some of the current processes of transmission between different actors may be significantly improved. This will prevent the case for an economic operator to act as a drive belt and it will allow systemic interactions among actors in the public administration (contracting authorities and Spanish CGD) or between government and financial institutions.

The main benefit of implementing the setting up of guarantees is the potential for improving processes, implying a possible direct relationship between actors such as financial and insurance institutions, and Spanish Government (CGD), or between the later and contracting authorities. This will save an economic operator the need to move documents from one administration to another.

4.2.4.3. Process

4.2.4.3.1. Context

Categorisation of contexts as defined in ebXML drivers.

Categories	Description and securities
Business Process	Procurement (Tender)
Product Classification	All kinds of goods and services
Sector classification	Procurement for any sector
Geopolitical	Europe
Official restrictions	Directives 2004/17/EC and 2004/18/EC and LCSP (Spain)
Business Process Role	Setting up guarantees

4.2.4.3.2. Scope of the process

An economic operator sets up a guarantee. Submission of Guarantee Certificate or equivalent document issued by financial institutions to the Spanish Government CGD or to a contracting entity.

It is beyond the scope of CODICE describing the process to be performed by the financial or insurance entity in order to generate a guarantee document. The process for the application of a guarantee to be done by an economic operator is not within the scope of CODICE.

4.2.4.3.3. Actors and roles

The process involves four actors, who act according to the roles described below.

Actor	Description
Contracting authority	A contracting authority is the legal entity or organization that purchases goods, works or services.
CGD	General administrative agency of the State where final securities shall be deposited.
Economic operator	Tenderer or contractor participating in the tendering process established by a contracting authority.
Financial institution	Legal entity that provides loans and credit facilities.

The roles played by these actors in this process are as follows:

Role	Description
Guarantor	Financial institution or insurance company issuing a guarantee requested by a contracting authority to endorse the secured party.
Guarantee	An economic operator is the endorsed party. The party that decides to participate in a tendering process.

Beneficiary	A contracting authority demanding a guarantee
Intermediary	Spanish Government Depositary (CGD) acts as an intermediary for all contracting authorities. It is the entity where a guarantee shall be deposited in certain circumstances.

4.2.4.3.4. Subprocesses of collaboration

Two subprocesses may be established.

- Application of a guarantee: the tenderer or contractor applies the insurance entity to issue a guarantee, provisional or final, as appropriate.

  The financial institution or insurance company generates a guarantee electronic document. They sign it electronically according to CODICE signing specifications and deliver it to the economic operator.

- Submission of a guarantee: an economic operator shall submit a guarantee to a contracting authority or the Spanish Government (CGD) in case a guarantee is provisional or final, respectively. The insurance company or financial institution could also do this process directly, without the need for delivery through an economic operator. That would lead to an improvement of the process.

  Following the submission of a guarantee, Spanish Government (CGD) issues a certificate or receipt of a guarantee. An economic operator shall then submit it to the concerned contracting authority. This process could be replaced by a systemic relationship between the Spanish Government (CGD) and the contracting authority (e.g. through the National Procurement Platform). This allows direct delivery of the receipt of submission of guarantee.
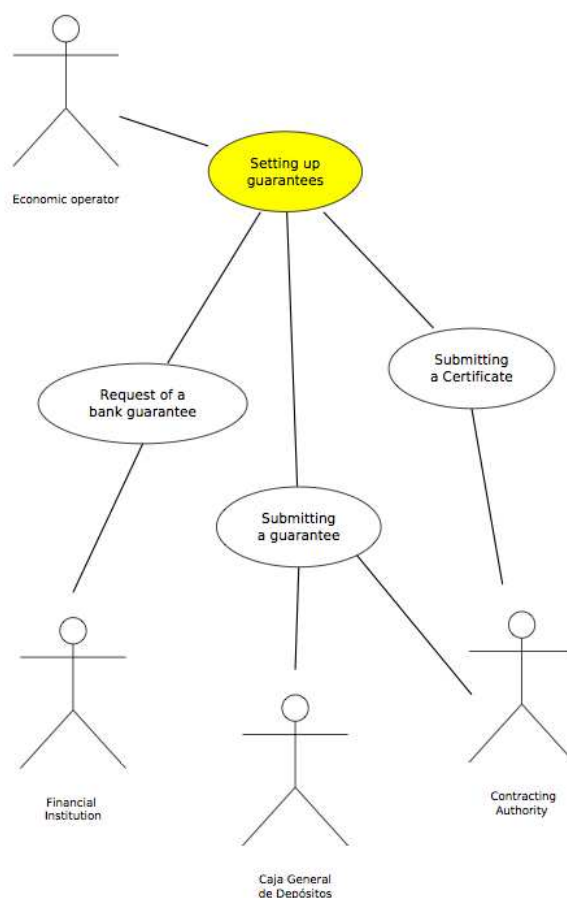
Use Cases 10 Setting up guarantees

1. Request of a bank guarantee

To apply for a guarantee, an economic operator shall be reach a financial institution or insurance company and provide the information of the envisaged guarantee. Also information regarding purpose and beneficiary shall be submitted.

The information needed to apply for a provisional or a final guarantee is found in the call for tenders document or in the case of the final guarantee, it can also be found in the contract award notice.

This transaction for application of a guarantee is not modelled in CODICE. It should be part of an external business process not only for electronic tendering.

In response to the application of a guarantee, the financial institution or insurance company may issue a guarantee electronic document containing the signatures of the guarantor's power of attorneys.

2. Submitting a guarantee

An economic operator shall submit a guarantee to the appropriate agency. This process could be performed directly from the financial institution to the Spanish Government (CGD) or contracting authority. Nevertheless nowadays it is an economic operator who receives a

guarantee document and submits it to one or another entity, depending on whether it is a provisional or final guarantee.

In case it is a final guarantee, when the provisional contractor submits it to the Spanish Government (CGD), provided that the validation of the credentials of the signatories of a document is correct, the CGD generates the appropriate certificate or proof of a guarantee.

The provisional contractor receives the Guarantee Certificate issued by the Spanish Government (CGD). He can submit it to the appropriate contracting authority. This electronic document could be transmitted directly from the Spanish Government (CGD) to the contracting authority. This exchange would be faster, saving an economic operator the need to perform an unnecessary activity.

In conclusion, this process could disappear if systemic channels were established between financial institutions, the Spanish Government (CGD) and contracting authorities.

Contracting authorities should have an electronic device allowing them to verify the existence of a guarantee deposited in the Spanish Government (CGD). Such a device could be the Guarantee Certificate itself signed by the Spanish Government (CGD), a systemic connection from the contracting authority to the Spanish Government (CGD) or any other electronic system that lets verify the deposit of a guarantee.

4.2.4.4. Documents

In the process of setting up a guarantee several documents are involved.

4.2.4.4.1. Call for Tenders

Every point of the electronic tendering, including conditions for setting up financial guarantees are set forth in the call for tenders document.

The same kind of component is used to define provisional, final and / or complementary guarantees. Tenderers shall submit a guarantee at the time of submission of their qualification document. In case the tenderer is the provisional contractor of a particular contract the final and complementary guarantees shall be submitted too.

The component shall contain the following elements:

- A statement on the type of guarantee, which may be Provisional, Final or Complementary.

- A free text describing the required guarantee.

- The amount; usually specified in case of provisional guarantees.

- In case it is a final guarantee, a percentage is usually specified. This percentage in Spain is 5% by law. In case of final guarantees, you cannot specify an amount because it usually depends on the amount of the final award.

- You can also specify the period for the setting up of a guarantee.

4.2.4.4.2. Award Notice

An Award Notice document is sent by a contracting authority to a provisional contractor to inform the latter that he has been provisionally awarded. [64] In this notification, contracting authority informs the provisional contractor of the requirements to be met in order to become final contractor.

An Award notice contains the required information for the provisional contractor to know about the amount of the final guarantee to be set up. The component used in the Award Notice is the same as the one used in the call for tenders document.

4.2.4.4.3. Guarantee

A Guarantee document is a document generated by the financial institution or insurance company acting as a guarantor and it may be:

- A surety (bank guarantee)

- A bond insurance

- Immobilisation of securities

- Immobilisation of investment funds.

A Guarantee document constitutes a basic document for speeding up the processes of creation, presentation and verification of the powers of the issuers of securities. Nevertheless, an external agent is responsible for generating this document. This agent is different from the seller (economic operator) or buyer (contracting entity) implied in CODICE. This is the reason why adoption by the entities devoted to the issue of guarantees has to be encouraged.

Guarantee document has been defined in the context of CODICE in conjunction with the Spanish Government (CGD) and representatives of the Spanish Insurance Industry Association (UNESPA). The most relevant elements a guarantee document provides are the following:

- Guarantor: financial institution that guarantees the operation and issues the electronic guarantee. Information on the guarantor shall be accompanied by information on the legal representatives of the financial institution or insurance company signing the guarantee.

- Guarantee: provisional contractor to whom the sale of products, services or works is guaranteed.

- Beneficiary; in the context of electronic procurement it coincides with the contracting authority.

- Information on the purpose of the guarantee; in the context of e-procurement the purpose of a contract and the file number are identified.

- Amount of a guarantee.

- Date of issue of a guarantee.

- Setup of a guarantee, which can be in cash, by means of a bank guarantee, a bond insurance, immobilisation of securities or immobilisation of investment funds.

- Period covered by a guarantee.

- Rules imposed when setting up a guarantee.

- Securities or investment funds frozen.

- Clauses.

It is noteworthy that in the case of the Guarantor, information on the attorneys who signed a guarantee has to be available. These legal representatives are reported in the PowerOfAttorney

class, which is an optional property of the Party class. In this case, you shall specify the legal representatives of the financial institution or insurance company, i.e. the Guarantor.

The PowerOfAttorney class has the following components that allow its assessment:

- Identifier of the attorney's code

- Date of issue of the power of attorney

- A descriptive text where you can enter the province.

- Notary issuing the power of attorney (optional)

- Attorney's data (name, address, identifiers ...)

- Attached Power of Attorney document (optional)

As for the method in which a guarantee is set up, it is defined in a document by means of a ConstitutionCode element. In case a guarantee is established upon immobilization of securities or investment funds, detailed information shall be provided. To this end, an ImmobilizedSecurity class is created where detailed information can be provided about:

- Immobilization Certificate Number

- ISIN Code

- Immobilization Date

- Nominal value, total immobilized amount.

- Realization value, nominal value per average rate at the date of completion. The realization value resulting from this calculation shall be equal to or greater than 105% with respect to the value requested in a guarantee.

- Number of titles

- Managing Entity

Finally, a document can include rules that impose the setting up of guarantee by means of a Regulation component, where the following can be reported:

- Textual name or identifier of the law.

- Legal reference, article, chapter or paragraph where the relevant legal reference has to be found.

- A URI where to find relevant legislation.

4.2.4.4.4. Guarantee Certificate

A certificate or receipt of a guarantee is generally issued by the Spanish Caja General de Depósitos to inform an economic operator and the contracting authority that a guarantee has been deposited thereto.

The Spanish Caja General de Depósitos may then undertake a process consisting of checking on the powers of signing attorneys of a guarantee. Upon confirmation of validity, a Guarantee Certificate is issued.

At a structural level, a Guarantee Certificate is a document very similar to a Guarantee document. It contains the same components. However it does not need to carry information on the attorneys of the Guarantor.

In addition to the components of a Guarantee document, a Guarantee Certificate provides an additional component, a reference to the original guarantee document. Thus, the Spanish Caja General de Depósitos can refer to the original guarantee document or embed it in the certificate itself.

A Guarantee Certificate shall be signed by the Government Caja General de Depósitos to endow it with integrity and authenticity of origin.

4.2.4.4.5. Guarantee Certificate Request

A contracting authority may systemically request a Guarantee Certificate to the Caja General de Depósitos. To facilitate this functionality a standard document for a Guarantee Certificate Request is needed. This document shall contain information necessary for the CGD to be able to identify a deposited Guarantee and to respond with a relevant Guarantee Certificate.

At a structural level, a Guarantee Certificate Request includes:

- Information on an interested party

- Information on a contracting authority as beneficiary

- Information about a contract and its purpose

With this basic information, the CGD shall be able to find a deposited guarantee and to reply with the appropriate certificate.

4.2.4.5. Process Detail

The process to be completed by an economic operator to establish and communicate the provisional constitution of a guarantee to the contracting authority is as follows.
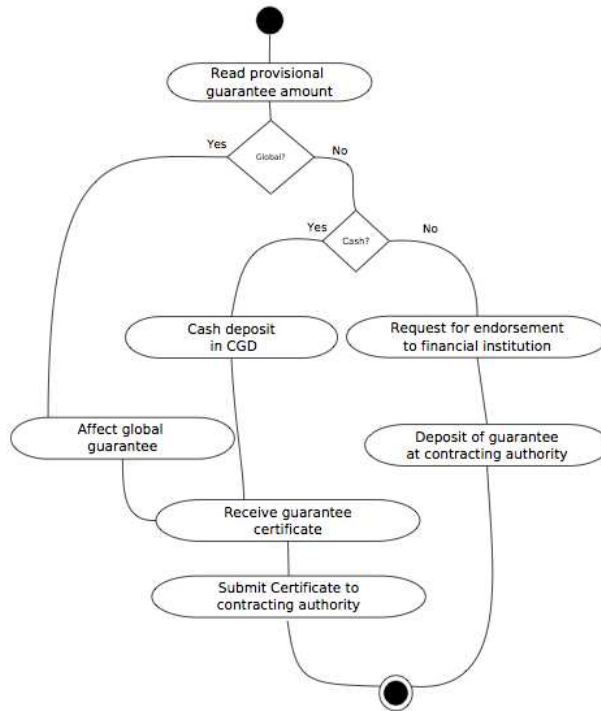
Diagram activity 7 Provisional guarantee

Activity	Description
Read provisional guarantee amount	The requirement to provide a guarantee to maintain a tender is described in the call for tenders document. A first step to be done by an economic operator is to verify if tendering terms in the contract notice describes the need to provide such a provisional guarantee and its amount.
Affect of a guarantee to a contract	If an economic operator is endowed with a global guarantee, a provisional guarantee shall affect this global guarantee in the Caja General de Depósitos. Once affected, the Government Depositary generates a guarantee certificate document.
Deposit of cash in the CGD	If an economic operator decides to set up a guarantee in cash, he has to submit an application with the cash to the CGD. CGD shall acknowledge its receipt with a corresponding guarantee certificate duly signed. A guarantee certificate document received by an economic operator is used to certify that a guarantee has been set up for a contracting authority.
Receipt Guarantee Certificate	Upon deposit of cash or affectation of a global guarantee in the CGD, the CGD issues a Guarantee Certificate.
Submission of a guarantee certificate to	If a guarantee was deposited in cash or using a global guarantee, an economic operator sends a guarantee certificate to the contracting authority.

a contracting authority	
Request for endorsement to a financial institution	In case an economic operator does not have a global guarantee or they do not want to deposit a guarantee in cash, he may request the establishment of a guarantee for the amount established in the call for tenders document to a financial institution or insurance company. This guarantee request is not within the scope of CODICE 2.
Guarantee Deposit by a contracting authority	An economic operator receives a guarantee issued by a financial institution or an insurance company. A guarantee may be a paper document or an electronic document with the signatures of the representatives of the entity. The digitalization of document guarantee and its formalization in an XML structure allows easing the task of evaluation and registration by a contracting authority or the Government CGD.

In case of a final guarantee:
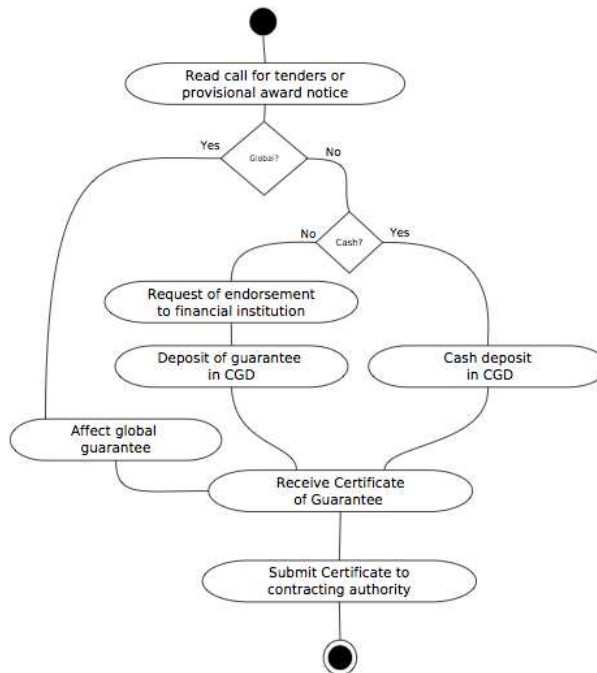
Activity Diagram 8 Final Guarantee

Activity	Description
Read call for tenders document or contract award notice	Only provisional contractors are allowed to provide a final (and complementary) guarantee. Awarded contractors receive a corresponding contract award notice.

	In the notification document, the contracting authority provides the final guarantee (and complementary) that a winning party shall be setting up.
Affect of a guarantee on a contract	In case an economic operator establishes a global guarantee, they shall apply its affectation to the CGD so as to cover this final guarantee.
	Caja General de Depósitos checks on the possibility of affecting a global guarantee.
Request for endorsement of financial institution	In other cases, an economic operator may request the setting up of a final guarantee for the amount specified in the received notice from a contracting authority. They may request for endorsement of a financial institution or insurance company.
	The way in which guarantee is requested to the financial institution is not within the scope of CODICE 2.
Guarantee Deposit in the CDG	An economic operator receives a guarantee from a financial institution or insurance company.
	A guarantee may be a paper document or an electronic document with the signatures of the representatives of the entity.
	The digitalization of document guarantee and its formalization in an XML structure allows easing the task of evaluation and registration to be done by a contracting authority or the Government.
Deposit of cash in the CDG	If an economic operator decides to set up a cash guarantee, they shall submit an application along with the corresponding amount in cash at the Caja General de Depósitos.
Receipt of Guarantee Certificate	The CDG may issue a Guarantee Certificate on the following grounds: • Affecting a global guarantee • A cash deposit has been made to act as a guarantee • A Guarantee document is presented endorsed by a financial institution. A Certificate is issued upon confirmation of validity of credentials signing the endorsement document.
Submission of Guarantee Certificate to a Contracting Entity	An economic operator sends a guarantee certificate to a contracting authority. This process could be eliminated if the establishment of a systemic relationship was defined between the Spanish Government and a contracting authority or consolidator organism such as the National Procurement Platform.

4.2.5. Contract formalization

4.2.5.1. Introduction

A contract shall be completed within ten working days upon the day following the notification of the final award.

A modelled Contract document is not defined within the scope of CODICE. This project finalizes when awarding the contract. However, the content of a Contract document could be generated directly by adding components already present in the call for tenders document and the winning tender.

4.3. Publisher process

Institutions providing ways to publish tendering processes both in the initial stages where the contracting authority may publish their intention to purchase and the final award stage have a unique role. They are in charge of the publication of documents received from the contracting authorities.

There are three basic types of documents for publication in official journals and other publication bodies:

1) Prior information notices

2) Contract notices

3) Contract award notices

All regulations regarding publication of contracts and their awards in both European Directives and national regulations pursue the same objective. This consists on the promotion of transparency and equality of opportunities for economic operators in public procurement processes.

OJEU may act as a platform to publish european tendering processes including a certain amount [65] . It is an attempt to promote creation of a European public procurement market, a first step to consolidate a public sector procurement market in Europe. It may promote creation of consortia or larger companies that can compete in global European and international market.

4.3.1. Publication

4.3 .1.1. Introduction

A publication body shall provide an interface for receiving documents to be published.

Ideally, a publication body has to be able to receive documents from contracting entities to be published, proceed to validate its contents and return a response indicating the outcome of a technical validation process prior to publication.

This response to submitted documents allows a contracting authority to obtain relevant formal information, such as the time of publication of a notice in a given journal.

In case of prior information notices and contract notices, if a publication is made in the buyer profile, the Official Journal of the European Union (in case of contracts subject to harmonized regulation) shall be informed in advance. The date of posting of a notice published in the profile should be reported. [66]

4.4. Registration Process

The purpose of the Official Register of Tenderers and Classified Companies of Spain is to keep track of the data capacity of economic operators who have previously been classified, and all those who apply for registration. In Chapter I of Title II of Book V of LCSP (Spain) several provisions related to the Official Registry of Tenderers and Classified Companies of the State (ROLECE) are set out for procurement processes in the Spanish context.

A detailed analysis of processes set out in ROLECE is not within the scope of this paper herein. Our goal is to point out those processes that may affect an electronic tendering process.

4.4.1. Issue of Certificate

4.4.1.1. Introduction

Official Registry of Tenderers and Contractors can register information of tenderers. As stated in analysis documents of ROLECE, information elements to be registered regarding a candidate to tender are the following:

- Details of Personality and capacity to act (compulsory).

- Information on Legal Representatives and Attorneys.

- Proof of both economic and financial solvency requirements

- Information on Securities.

- Classification

- Prohibition to tender (entered automatically by the Registry).

The Registry shall be able to collect this information and register it at the behest of an economic operator or automatically (if there exist prohibitions to tender) to generate certificates to facilitate the qualification phase of economic operators.

It is not compulsory for an economic operator to keep all information in the Registry. However, updated information makes it easier for developing a tendering process.

Those economic operators whose solvency information, classification and titles, as well as their legal personality and capacity to act are registered in the ROLECE are only required to submit the certificate issued by the ROLECE and a statement of responsibility according to which the points defined in ROLECE are up to date. This shall allow them to create a Tenderer Qualification document.

Those processes required to update information in ROLECE are not modelled in CODICE. It is understood that the process of updating the information shall not go through processes of systemic information exchange. It is not a transaction that occurs repeatedly over time nor there are any business applications to systematize this process of update.

It is necessary, though, to model the process of issuing a Certificate. This process is of major importance to a contracting authority to standardize and simplify the qualification information of tenderers.

4.4.1 2. Benefits

Aspect	Beneficiary	Benefit
Simplification	Economic Operator	An economic operator does not need to compile a complex collection of qualification documents for each tender in which they participate.
Process Automation	Contracting authority	A contracting may automate the process of admission and exclusion of candidates. Having a model certificate, this procedure is greatly simplified.

4.4.1.3. Process

4.4.1.3.1. Context

Categorisation of contexts according to drivers defined in ebXML.

Categories	Description and securities
Business Process	Procurement (Tender)
Product Classification	All kinds of goods and services
Sector Classification	Public procurement in any sector
Geopolitical	Europe
Official Restrictions	Directives 2004/17/EC and 2004/18/EC and LCSP (Spain)
Role in Business Process	Issue of Certificate

4.4.1.3.2. Scope of the Process

Issuance of a certificate regarding situation of a company according to the data recorded in the Official Registry of Tenderers and Contractors (Spain).

4.4.1.3.3. Actors and roles

This process involves two actors.

Actor	Description
Economic Operator	An economic operator or a contractor is a participant in a procurement process established by a contracting authority.
Registry	The Registry is an Agency that records, validates and keeps data from economic operators and issues the certificate for an economic operator to submit to the contracting authority along with a Tenderer Qualification document.

4.4.1.3.4. Subprocesses of collaboration

The certificate issuing process can be divided into the following threads:

1. Receipt of a request. An economic operator may request a certificate at any time by sending an identifier to the Registry.
2. Issue of a Certificate. The Registry gathers all of the information held from an economic operator and prepares a Registration Certificate. It then makes it available to the corresponding economic operator.

At a later stage, a direct mechanism could be established defining a relationship between a contracting authority and the Registry. Thus, it would not be necessary for an economic operator to present a ROLECE Certificate. A contracting authority could simply make systemic requests to the Registry upon specific aspects of an economic operator, such as their technical or economic capabilities.

4.4.1.4. Documents

4.4.1.4.4. Registration Certificate.

A Registration Certificate is a document that shall contain all information necessary for the contracting authority to verify that an economic operator has the capacity to act and it is not involved in any prohibition to tender. Specifically, data elements to be included are the following:

- Description of the social object stated in the articles of incorporation of an economic operator

- Registry Issuing Certificate, ID

- Information on an economic operator; identifiers, address, contacts, etc.

- Information about the constitution of the company

- Information about the Board of Directors or the Administrator of an economic operator

- Information about the legal representatives of an economic operator

- Information on the bank account of an economic operator in order to use this information as a basis to determine economic and financial capabilities of an economic operator

- Information on secured liabilities used to ensure the solvency of an economic operator, especially for individual economic operators and professionals.

- Information on the turnover used to define the economic and financial solvency of an economic operator

- Information about professional capabilities

- Information about business classifications to specify different classifications obtained by an economic operator for the purpose of tendering.

- Information about possible prohibitions to tender incurred by an economic operator.

4.5. Processes of the CGD

4.5.1. Issue of Certificate

4.5 .1.1. Introduction

The Caja General de Depósitos (CGD) is an administrative body composed of the Directorate General of Treasury and Financial Policy of the Spanish Ministry of Economy and Finance. They are responsible for the monitoring and management of deposits and securities lodged with the Administration to meet compliance obligations established by the statute under which such deposits and guarantees are set up.

The CGD is in charge of the receipt, custody and return of deposits and guarantees established at headquarters and at branches of the Delegations of the Spanish Treasury. At a regional level, CGD branches, actual Delegations of the Spanish Treasury, provide services.

Use cases to be taken into account in the context of public procurement are the following:

Setting up Guarantees in cash. An economic operator may set up a guarantee in cash for a particular tendering record with a contracting authority.

The CGD may then issue a Guarantee Certificate of incorporation upon the requested file and contracting authority.

Setting up guarantees through bank endorsement, insurance contracts or immobilization of securities. An economic operator or a financial institution or insurance company deposit an endorsement, an insurance contract or an immobilization of securities to the Government Depositary. This is intended to secure a final guarantee of a particular tendering record or file upon a contracting authority.

The CGD shall then check by means of an evaluation registration number that all signers of a bond, bond insurance contract, or immobilization of securities have the necessary powers of representation of the entity issuing a document.

Should verification be positive, a guarantee deposit is registered and a certificate is issued.

Setting up guarantees based on a global guarantee. An economic operator requests the Government CGD to affect part of a global guarantee for a provisional or final guarantee.

The CGD verifies that the amount requested is available, and issues an appropriate certificate.

Issuance of Guarantee Certificates upon request from an economic operator or a contracting authority. An economic operator or a contracting authority may request the Government CGD to issue a Guarantee Certificate for a particular contracting authority and for a given tendering project. This request shall include contracting information as the beneficiary, contract file information and purpose.

The CGD verifies that a guarantee has been previously been set up with the required characteristics, and issues a corresponding guarantee certificate

In all previous cases, the CGD shall generate a Guarantee Certificate document. In the first three cases an economic operator requests generation of a Certificate. Such Certificate may correspond to a guarantee set up in cash, based on a bank endorsement, an insurance bond, or through involvement of a global guarantee affected. In the latter case an economic operator or a contracting authority performs generation of a request for a Certificate. This enables a systemic communication between contracting entities and the CGD.

This document herein is not intended to discuss processes to be carried out by the CGD to verify that a surety or a bond insurance are valid or that there is a global guarantee sufficient to satisfy the guarantee requirements. Only a reference is made to these processes since they are considered to be generators of those documents required by a contracting authority in the evaluation phases of a tendering process.

4.5.1 2. Benefits

Aspect	Beneficiary	Benefit
Simplification	Economic Operator	Automating the process of issuing the Guarantee Certificate is the first step to prevent an economic operator from getting it at the CGD for subsequent delivery to a Contracting Authority. Electronic

tendering process can avoid this process. This shall make it easier for an economic operator to develop their management strategy.

4.5.1.3. Process

4.5.1.3.1. Context

Categorisation of contexts according to drivers defined in ebXML.

Categories	Description and Securities
Business Process	Guarantees
Product Classification	All kinds of goods and services
Sector Classification	Public procurement in any sector
Geopolitical	Europe
Official Restrictions	Directives 2004/17/EC and 2004/18/EC and LCSP (Spain)
Role in Business Process	Issue of a Guarantee Certificate

4.5.1.3.2. Scope of the Process

CGD issuing a guarantee certificate to an economic operator who has requested it either by cash deposit or by submitting a bank guarantee or an insurance bond.

4.5.1.3.3. Actors and roles

This process involves two actors.

Actor	Description
Economic Operator	An economic operator or a contractor is a participant in a procurement process established by a contracting authority.
CGD	The CGD is a Spanish public agency that records, validates and custodies of a guarantee provided by economic operators, whether in the form of deposits or as guarantor or surety insurance, and issues a Guarantee Certificate which an economic operator may submit to the contracting authority

4.5.1.3.4. Subprocesses of collaboration

The process involving issue of Guarantee Certificates can be divided into three threads:

1. Deposit of a guarantee. An economic operator deposits a guarantee required by a contracting authority in a call for tenders document in cash or by any other means permitted by law, such as through the establishment of a bank guarantee or an insurance bond. In these cases, provided that the financial institution issues an electronic document using the modelled Guarantee document of CODICE, an economic operator can directly present this document duly signed by the corresponding financial institution.
2. Getting the request. An economic operator may request a certificate at any time. They shall be appropriately upon the system of the CGD.

3. Issue of a Certificate. The CGD verifies information of a guarantee or insurance bond and prepares a Guarantee Certificate document, which is then made available to an economic operator.

A relationship may be defined between the CGD and a contracting authority to create a systemic relationship that makes unnecessary for an economic operator to act as a transmission belt between them.

4.5.1.4. Documents

Documents used by the CGD have already been discussed above.

4.5.1.4.1. Guarantee

See Section 4.2.4.4.3

4.5.1.4.2. Guarantee Certificate

See Section 4.2.4.4.4

4.5.1.4.3. Guarantee Certificate Request

See Section 4.2.4.4.5

5. Applying business process to tendering procedures

Electronic transactions identified in each of these processes are performed taking into account the workflow given the current rules for each type of tendering procedure.

This section describes the different processes applicable to each tendering procedure in a tabular form.

5.1 Open Procedure

Contracting Authority	Economic Operator	Publisher	Register	Deposit of guarantees	Financial Institutions
Prior Information Notice (Optional)		Publishes prior information notice			
Create the file					
Elaborate Call for Tenders					
Publicity of the contract		Publishes contract notice			
	Select opportunities				
	Create qualification document (administrative documentation)		Submits certificate from the Registry		
	Setting up a guarantee (provisional guarantee if required in the call for tenders)			Submit certificate (for cash guarantees or globlal guarantees)	Submit banking endorsement or guarantee (bank endorsements or bonds)
	Create and submit the tender				
Admission and exclusion of candidates					
Provisional awarding of the contract					
Publicity of the awarding (Provisional)		Publish provisional contract award notice			

Contracting Authority	Economic Operator	Publisher	Register	Deposit of guarantees	Financial Institutions
	Setting up guarantee (Final guarantee)			Submit certificate	Submit banking endorsement or guarantee (bank endorsements or bonds)
Formalization of the contract	Formalization of the contract				
Publicity of the awarding (Final)		Publish final contract award notice			

5.2 Restricted Procedure

Contracting Authority	Economic Operator	Publisher	Register	Deposit of guarantees	Financial Institutions
Prior Information Notice (Optional)		Publishes prior information notice			
Create the file					
Elaborate Call for Tenders					
Publicity of the contract		Publishes contract notice			
	Select opportunities				
	Create qualification document (administrative documentation)		Submits certificate from the Registry		
Admission and exclusion of candidates (Invitations to participate)					
	Setting up a guarantee (provisional guarantee if required in the call for tenders)			Submit certificate (for cash guarantees or globlal guarantees)	Submit banking endorsement or guarantee (bank endorsements or bonds)
	Create and submit the tender				
Provisional awarding of the					

contract					
Publicity of the awarding (Provisional)		Publish provisional contract award notice			
					Submit banking endorsement or guarantee (bank endorsements or bonds)
	Setting up guarantee (Final guarantee)			Submit certificate	
Formalization of the contract	Formalization of the contract				
Publicity of the awarding (Final)		Publish final contract award notice			

5.3 Negotiated Procedure with Publicity

Contracting Authority	Economic Operator	Publisher	Register	Deposit of guarantees	Financial Institutions
Prior Information Notice (Optional)		Publishes prior information notice			
Create the file					
Elaborate Call for Tenders					
Publicity of the contract		Publishes contract notice			
	Select opportunities				
	Setting up a guarantee (provisional guarantee if required in the call for tenders)			Submit certificate (for cash guarantees or globlal guarantees)	Submit banking endorsement or guarantee (bank endorsements or bonds)
	Create qualification document (administrative documentation)		Submits certificate from the Registry		

Admission and exclusion of candidates (Invitations to participate)					
Negotiation of the contract terms (no CODICE documents interchanged in this process)	Negotiation of the contract terms (no CODICE documents interchanged in this process)				
	Create and submit the tender				
Provisional awarding of the contract					
Publicity of the awarding (Provisional)		Publish provisional contract award notice			
					Submit banking endorsement or guarantee (bank endorsements or bonds)
	Setting up guarantee (Final guarantee)			Submit certificate	
Formalization of the contract	Formalization of the contract				
Publicity of the awarding (Final)		Publish final contract award notice			

5.4 Negotiated Procedure without Publicity

Contracting Authority	Economic Operator	Publisher	Register	Deposit of guarantees	Financial Institutions
Create the file					
Elaborate Call for Tenders					
Invitation to tender (submit call for tenders)					

	Create qualification document (administrative documentation)		Submits certificate from the Registry		
	Setting up a guarantee (provisional guarantee if required in the call for tenders)			Submit certificate (for cash guarantees or globlal guarantees)	Submit banking endorsement or guarantee (bank endorsements or bonds)
	Create and submit the tender				
Admission and exclusion of candidates					
Negotiation of the contract terms (no CODICE documents interchanged in this process)	Negotiation of the contract terms (no CODICE documents interchanged in this process)				
Provisional awarding of the contract					
Publicity of the awarding (Provisional)		Publish provisional contract award notice			
					Submit banking endorsement or guarantee (bank endorsements or bonds)
	Setting up guarantee (Final guarantee)			Submit certificate	
Formalization of the contract	Formalization of the contract				
Publicity of the awarding (Final)		Publish final contract award notice			

5.5 Competitive Dialogue

CODICE2

Contracting Authority	Economic Operator	Publisher	Register	Deposit of guarantees	Financial Institutions
Prior Information Notice (Optional)		Publishes prior information notice			
Create the file					
Elaborate Descriptive document					
Publicity of the contract		Publishes contract notice			
	Select opportunities				
	Setting up a guarantee (provisional guarantee if required in the call for tenders)			Submit certificate (for cash guarantees or globlal guarantees)	Submit banking endorsement or guarantee (bank endorsements or bonds)
	Create qualification document (administrative documentation)		Submits certificate from the Registry		
Admission and exclusion of candidates (Invitations to participate)					
Dialogue (It can take several cycles of elaboration and submission of proposals and admission of candidates. In general it does not make sense to drive a dialogue by electronic means)					
Invitation to submit a final tender					
	Create and submit the tender				
Provisional awarding of the contract					
Publicity of the awarding (Provisional)		Publish provisional contract award notice			
					Submit banking endorsement or guarantee (bank endorsements or

					bonds)
	Setting up guarantee (Final guarantee)			Submit certificate	
Formalization of the contract	Formalization of the contract				
Publicity of the awarding (Final)		Publish final contract award notice			

Glossary

Proof.- Document proving the condition of a person and their capability to perform a certain activity or position.

Contract award notice.- A message issued by a contracting authority to announce the award of a contract.

Contract Notice.- Message published by a contracting authority to announce a tendering process.

Prior information notice.- Message published by a contracting authority to inform of their intention to undertake a tendering process in a given period.

CEN.- European Committee for Standardization

CEN / ISSS BII .- CEN Business Interoperable Interfaces WorkShop

ROLECE Certificate.- Certificate issued by the Spanish Official Registry of Tenderers and Contractors of the State with information on an economic operator. It includes data on legal personality and capacity to act and also information about economic-financial and technical-professional solvency.

CODICE.- Componentes y Documentos Interoperables de la Contratación Electrónica [Interoperable Components and Documents for Electronic Procurement].

Exclusion criteria.- Conditions upon which an economic operator may be excluded from a tendering process.

Selection criteria.- Conditions upon which capacity of an economic operator to perform a contract is evaluated.

Document descriptive of a competitive dialogue.- A document that describes the object of a contract in a proceeding governed by a competitive dialogue.

Enterpreneur.- Holder owner or manager of an industry, business or enterprise

Evidence.- Decisive proof in a trial or a process.

Jury.- A body responsible for the evaluation of tenders

Award notice.- Message sent to a tenderer to inform them they have been awarded a tender as a result of a tendering process.

Tender.- Proposal to bid.

Economic Operator.- A potential tenderer

Contracting authority.- Representation of entities, agencies and public sector entities in contractual matters corresponds to contracting authorities, no matter their business configuration, which under law or regulation or statutory provision have been attributed the power to conclude contracts on their behalf.

Administrative call for tenders document.- A document which includes the terms and conditions defining the rights and obligations of the parties to a contract and other details required by regulations and their implementing rules.

Technical call for tenders document.- A document containing technical requirements governing the conduct of the service and defining its qualities, in accordance with the requirements provided for each contract by Spanish LCSP.

Tendering process.- Tendering rules under which contracts are awarded by public authorities to economic operators.

UBL.- Universal Business Language, XML vocabulary for the generation of documents related to electronic commerce.

UN / CEFACT.- United Nations, Centre for Trade Facilitation and Electronic Business, organization under the UN / ECE (United Nations Economic Commission for Europe) which aims at promoting the adoption of electronic commerce by businesses and governments.

ROLECE.- Registro Oficial de Licitadores y Empresas Clasificadas del Estado [Official Register of Tenderers and Classified Companies of the State (Spain)].

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[1] Interoperable Components and Documents for Electronic Procurement
[2] Directives 2004/18/EC and 2004/17/EC
[3] SIMAP
[4] Business Interoperable Interfaces
[5] Northern European Subset
[6] cf. Article 13 [LCSP]
[7] cf. Article 126.1 and 126.3 [LCSP]
[8] cf. Article 138 [LCSP]
[9] cf. Article 161 [LCSP]
[10] cf. Article 182.4 [LCSP]
[11] cf. Article 182
[12] It cannot be a period larger than four years, by law.
[13] Business Interoperable Interfaces
[14] cf. Article 184.Letter f) [LCSP]
[15] See Article 186. [LCSP]
[16] Article 184 states that (sic) "Dynamic Procurement System will be developed according to the rules of open procedure throughout all of its phases and until the award of corresponding contracts [...]".

[17] cf. Article 185.2 [LCSP] The evaluation of indicative tenders shall occur within fifteen days of its submission. This period may be extended by contracting authority, provided that in the meantime, a new procurement process is not initiated.
[18] cf. Article 132 [LCSP]
[19] cf. Article 125 [LCSP]

[20] cf. Article 143 [LCSP]

[21] Annex VII to Directive 2004/18/EC

[22] The Controller General of State Administration (IGAE) has defined for accounting documents a format called TELCONXML to contemplate existence of credit documents, retention credit, approval of spending, and etc.The use of these documents for the creation of a procurement file is beyond the scope of this project.

[23] cf. Article 96 [LCSP]

[24] See section 4.1.5.

[25] See section 4.2.3.

[26] See section 4.1.6.

[27] cf. Article 126 [LCSP]

[28] Annex VII to Directive 2004/18/EC

[29] Common Procurement Vocabulary

[30] cf. Article 126.3 [LCSP]

[31] CEN Workshop on Business Interoperable Interfaces

[32] Capacity and solvency of an economic operator

[33] cf. Article 49 [LCSP]

[34] cf. Subsection 4, Section 1, Chapter II capacity and solvency of an economic operator [LCSP]

[35] cf. Article 54 [LCSP]

[36] cf. Article 72 [LCSP]

[37] See 4.2.2.Creation of qualification.

[38] cf. Article 136 [LCSP]

[39] cf. Article 131.1 [LCSP]

[40] cft. Article 135 [LCSP]

[41] cf. Articles 135 [LCSP]

[42] cf. Article 138 [LCSP]

[43] cf. Article 139 [LCSP]

[44] cf. Article 42 [LCSP]

[45] cf. Article 35 of Directive 2004/18/EC, in the [LCSP] is called the contractor's profile.

[46] http://ted.europa.eu/ Tenders Electronic Daily

[47] Really Simple Syndication

[48] cf. Article 43 [LCSP]

[49] Pan European Public Procurement OnLine, a pilot project to establish a pan-European infrastructure to enhance cross-border purchases in the public sector, making possible a European market. The WP2 is the Work Package 2, responsible for the definition of the Virtual Company Dossier.

[50] Article 130.1 c) A statement of responsibility declaring legal capacity to tender.

[51] cf. Article 48 [LCSP]

[52] See 4.1.5.4.1. Call For Tenders details in the process of admission and exclusion of candidates.

[53] See 4.1.5.4.2 Details of Qualification in the process of admission and exclusion of candidates.

[54] cf. Article 134. 2 [LCSP]

[55] See Procurement 4.1.6.

[56] See 4.1.6.Award of contract

[57] Nineteenth additional provision. Use of electronic, computer and telematics for proceedings under the Act [LCSP]

[58] Common Procurement Vocabulary

[59] See document CODICE on document signing for more information on how to sign a document

[60] cf. Article 83.1 [LCSP]

[61] cf. Article 91 [LCSP]

[62] cf. Article 83.3 [LCSP]

[63] cf. Article 84 [LCSP]

[64] cf. Article 135.3 [LCSP]

[65] In Spain, projects known to be subject to harmonized regulation.

[66] cf. Article 125. 1 c) [LCSP]