



IDA E-PROCUREMENT PROTOCOL XML SCHEMAS INITIATIVE

E-TENDERING AND E-AWARDING PHASES

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1 INTRODUCTION

1.1 CONTEXT

IDA is a European programme using information and communication technologies to support exchange of information between administrations. Its objective is to improve Community decision-making, facilitate operation of the internal market and accelerate policy implementation.

In the public procurement area, interactive services have been identified as key to reducing borders and contributing to the enforcement of the single European Market and the competitiveness of European businesses.

Therefore, IDA has undertaken in 2003 and 2004 a study in order to define and promote pan-European guidelines for data exchange in the public e-procurement domain, using common and standard data description syntax - XML schemas.

This study is in line with the new legislative framework for electronic public procurement in the European Union.

The four first phases of e-procurement that will be covered by this study are the following:

- e-Tendering and e-awarding (present document);
- Ordering and invoicing phases.

1.2 SCOPE

This study aims at specifying the business documents exchanged between a public sector buyer and suppliers during the e-Tendering and e-Awarding phases in electronic public procurement.

The scope of this document is the specification of business documents exchanged between a public sector buyer and an external supplier during the **tendering and awarding phases** in electronic public procurement. It covers the different award procedures established in the Directives: open procedure, restricted procedure, competitive dialogue, negotiated procedure with or without advertisement and framework agreement.

The study provides for an implementation of the proposed model in the form of a set of XML schemas. However, the processes and information model itself does not rely on XML. It could therefore be implemented using a different technology such as ASN1 for example.

The specification includes:

- The present document which details business processes involved and data models using UML diagrams;
- A set of .xsd files containing the definition of the W3C XML schemas.

1.3 METHODOLOGY OVERVIEW

The methodology used is based on:

- The description of the business requirements by modelling business processes and business documents exchanged between parties;
- The conversion of the UML data model into XML schemas using conversion rules.

The specification cycle, based on a bottom-up approach, mainly relied on existing experiences and documentation, namely:

- Directives 2003 of the European Parliament and the Council on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts;
- Feedback from the e-tendering platform developed by the French Ministry for Defence;
- E-tendering initiatives in Sweden and UK;
- The e-tendering pilot that is currently implemented by the Publications Office;

- The TGB6 workgroup *Electronic tendering international standardization* documents.

1.4 DOCUMENT STRUCTURE

This document is structured as follows:

- *Business Requirements*: define the business processes and identify business documents exchanged;
- *Information model*: describes the data composing business documents using UML class diagrams;
- *Issues and decisions made*: lists questions and issues encountered as well as decisions made;
- *UML to XML schemas conversion rules*: describes the rules that enable the generation of XML schemas from the UML class diagrams;
- *XML schema design guidelines*: indicate the design rules applied in the design of XML schemas.

2 BUSINESS REQUIREMENTS

2.1 INTRODUCTION

2.1.1 OUTLINE

The present study proposes a model to cover all procurement procedures (open, restricted, negotiated, competitive dialogue, framework agreement) described in the forthcoming European directives and all types of purchases (works, supplies and services).

The business documents are specified for implementation as XML documents to be exchanged between Contracting Authorities and economic operators. The business document structure is defined by an (W3C) XML schema.

The following aspects of procurement processes are beyond the scope of this study:

- Processes internal to the Contracting Authority and supplier parties;
- Communication with third parties and intermediaries such as carriers, third party service providers (e.g., for time-stamping, managing of digital certificates or archiving), banks or fiscal authorities;
- Messaging transport (SMTP, HTTP, SOAP, ebMS, etc.) and security¹.

This section describes the functional requirements of the e-procurement cycle. To this end, it defines:

- The actors involved in the different processes necessitating an exchange of data;
- The business processes described by UML diagrams.

The different exchanges of information described in this section can be carried out through different means. The models described below assume the electronic exchange of data in a fully automated environment (system-to-system communication).

2.1.2 DEFINITION

A **business document** is a unit of business information exchanged in a *business transaction*.

An **(information) component** is a collection of data, which together form a coherent whole (such as Address, Party, ContactInformation).

A **re-usable component** is an information component that, although it does not correspond to a business document as such, is (or is likely to be) used in different business documents.

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC as quoted here:

1. MUST This word, or the terms "REQUIRED" or "SHALL", mean that the definition is an absolute requirement of the specification.
2. MUST NOT This phrase, or the phrase "SHALL NOT", mean that the definition is an absolute prohibition of the specification.
3. SHOULD This word, or the adjective "RECOMMENDED", mean that there may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.
4. SHOULD NOT This phrase, or the phrase "NOT RECOMMENDED" mean that there may exist valid reasons in particular circumstances when the particular behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label. Bradner Best Current Practice
5. MAY This word, or the adjective "OPTIONAL", mean that an item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because the vendor feels that it enhances the product while another vendor may omit the same item. An implementation, which does not include a particular option, MUST be prepared to interoperate with another implementation, which does include the option, though perhaps with reduced functionality. In the same vein an implementation which does include a particular option MUST be prepared to

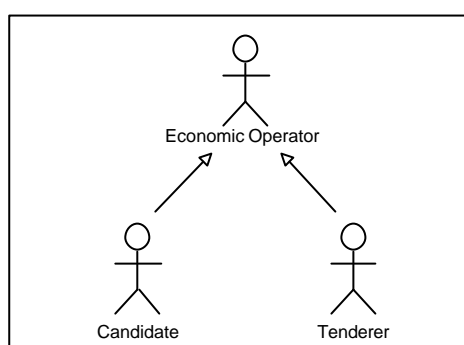
¹ Apart from an optional signature element attached to each business document.

interoperate with another implementation which does not include the option (except, of course, for the feature the option provides).

2.1.3 ACTORS

The different actors involved in the processes described hereafter are the following:

- The **Contracting Authority or CA**: the party that issues a request to buy goods, services or works. It can be a state, a regional or local authority, a body governed by public law, associations formed by one or several of such authorities or one or several of such bodies governed by public law;
- The **economic operator**: a contractor, a supplier or service provider who aims at proposing his services, goods or works in response to the request of the Contracting Authority. We have identified two different roles that are involved in the award procedure:
 - The **Candidate**: an economic operator who is seeking an invitation to take part in a Restricted Procedure, Negotiated Procedure or Competitive Dialogue;
 - The **Tenderer**: an economic operator who has submitted a tender or an offer;



- The **e-tendering platform**: an electronic device that acts as intermediary between the Contracting Authority and the economic operators for the communication of data (e.g., electronic transmission, receipt, storage and processing of information). It can be run by the Contracting Authority or by a third party;
- The **Commission**: the Publications Office of the European Communities (OPOCE) is responsible for the publication of notices in the Official Journal of the EU (OJEU).

2.2 OVERVIEW

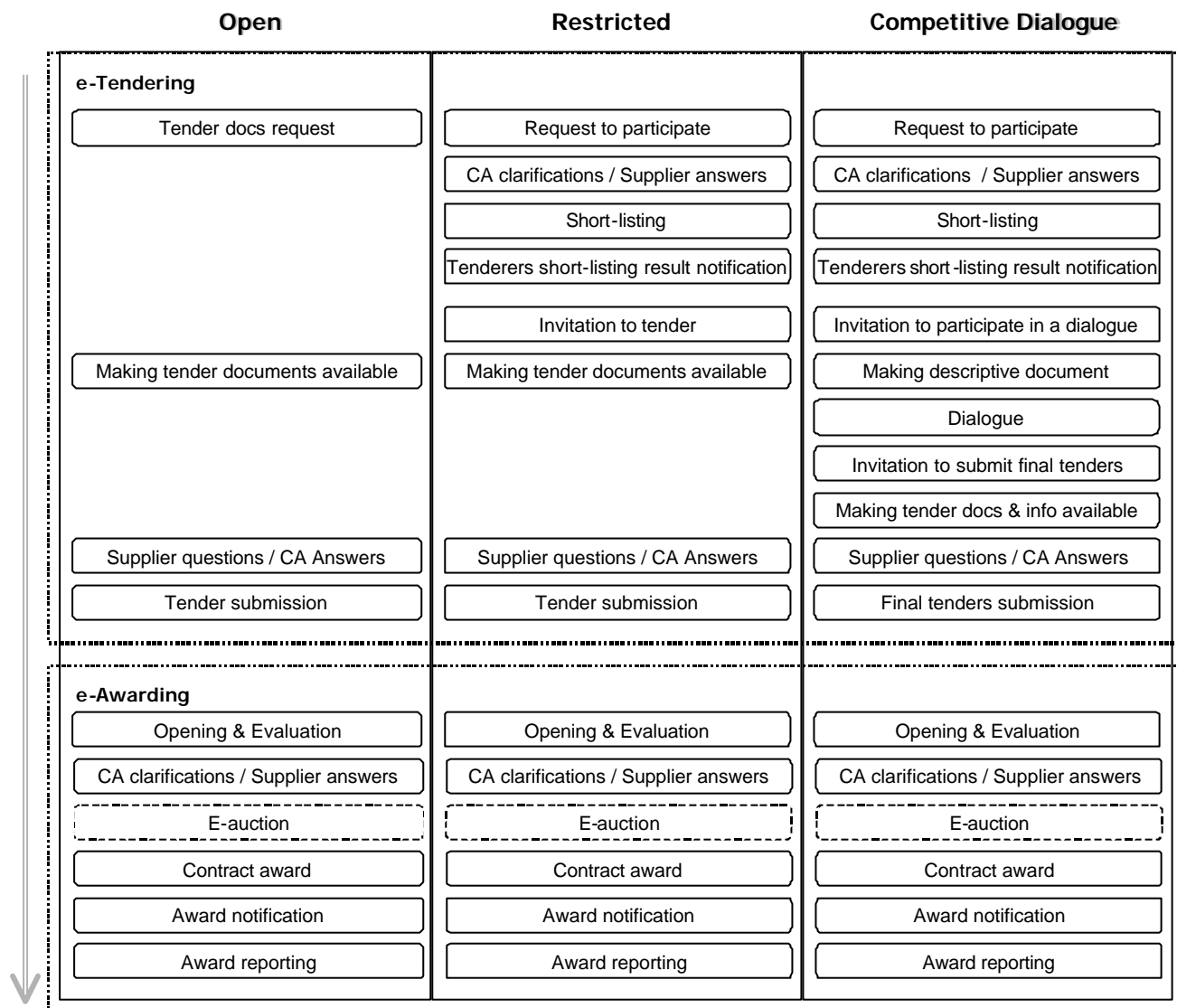
2.2.1 AWARD PROCEDURES

This chapter describes e-procurement processes taking place in the e-tendering and e-awarding phases, which we define as follows:

- **e-Tendering**: covers the preparation of an offer by a tenderer in response to a call for competition, as well as its submission to and receipt by, the Contracting Authority;
- **e-Awarding**: this phase begins with the opening of tenders; after evaluating the tenders, a winning tender is selected; an award notice is published through the appropriate services. Economic operators are informed of the result of the selection. The award notice is however, considered as part of the notification phase which is outside the scope of the study.

This section describes 3 of the award procedures: open, restricted, and competitive dialogue. The other procedures, that are negotiated with advertisement, negotiated without advertisement and framework agreements are not considered here since they can take different forms and therefore are more complex to model.

The following table shows on a per-procedure basis the different steps involved:



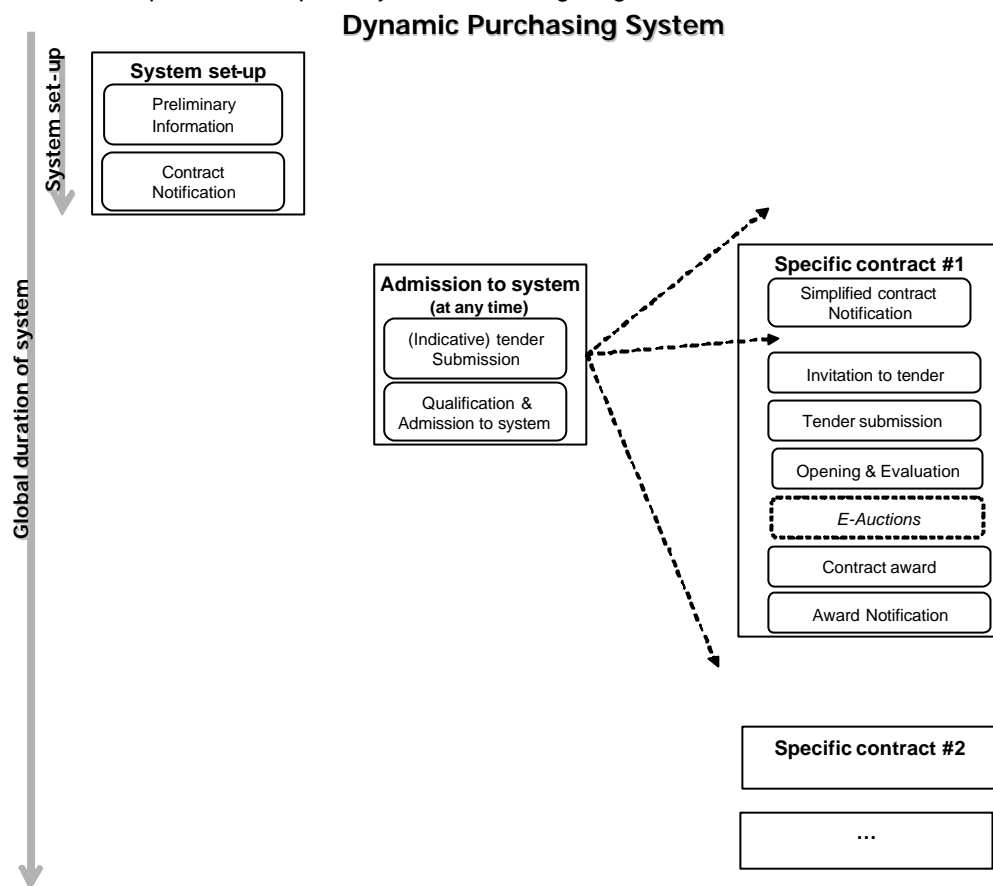
The **Design contest** is also awarded under either the open or restricted procedure. Hence, it is not shown in our diagram.

The different steps shown above (represented by boxes) are further detailed in the following sections.

Note: Within the tender submission phase, an important step is the sending of an acknowledgement message that confirms that the Contracting Authority has properly received the tender. This step is also further described in the following sections.

2.2.2 DYNAMIC PURCHASING SYSTEM

The Dynamic Purchasing System procedure, introduced by the new directives, is significantly different from the others and is presented separately in the following diagram:



The system-setup and the simplified contract notification are outside the scope of our specification.

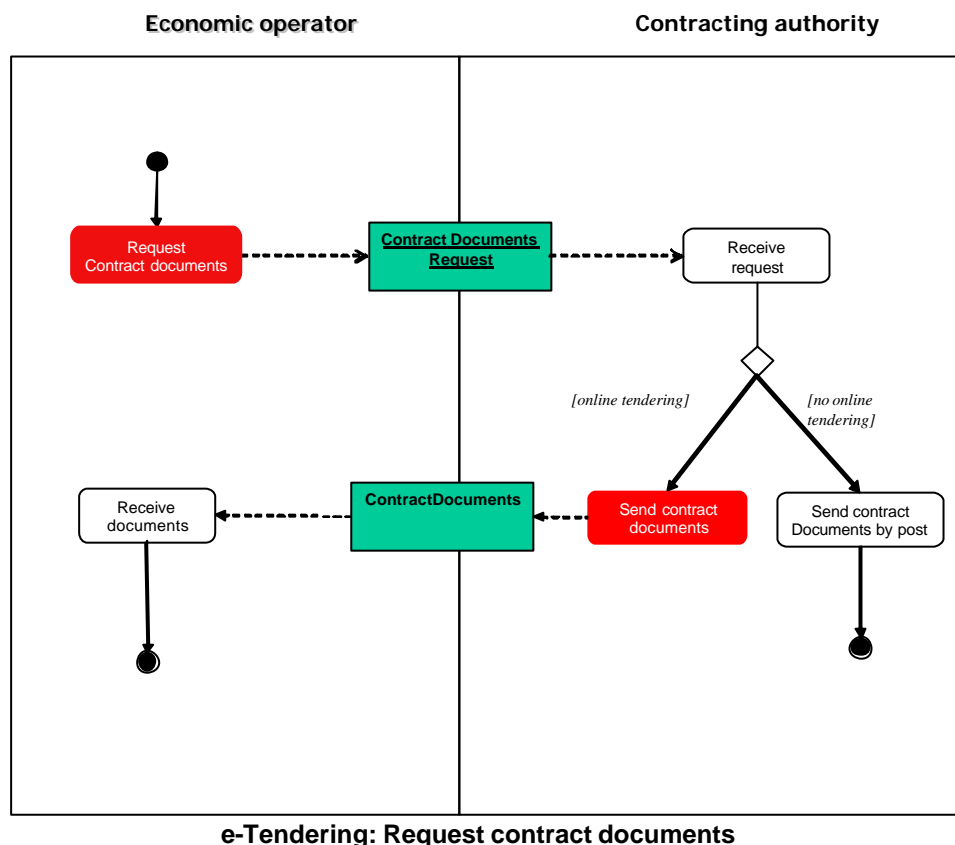
The *Qualification & Admission to system* is similar to the *Short-listing* process.

2.3 ELEMENTS OF PROCEDURE

2.3.1 TENDER DOCUMENT REQUEST

An economic operator, in response to the corresponding contract notice, requests the tender documents (also called contract documents) to the Contracting Authority.

If the Contracting Authority is using an e-tendering platform, the contract documents (the documents themselves or more commonly a URL allowing accessing the documents when they can be downloaded) are sent to the requesting economic operator. In other cases, economic operators can directly download tender documents on the e-tendering platform without having to explicitly request them.



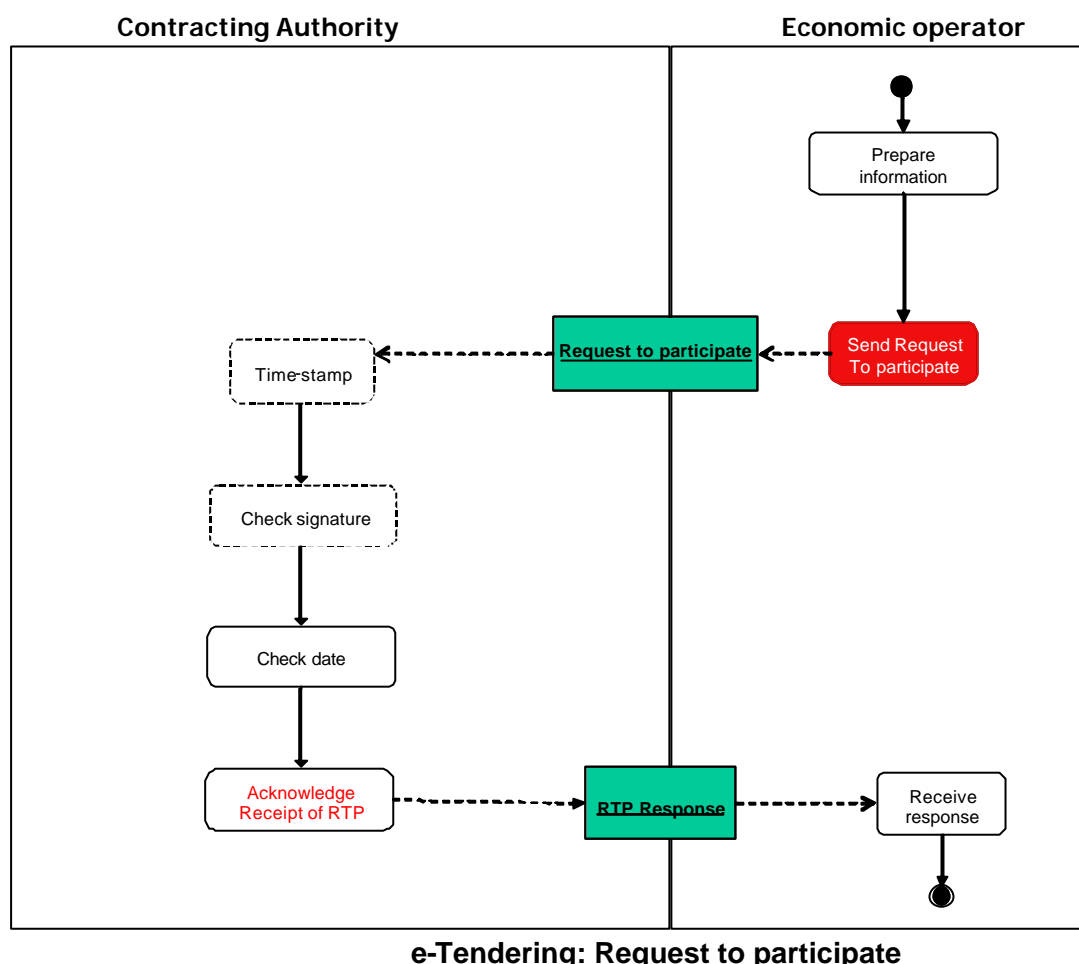
Messages	Description
Contract Documents Request	Sent by an economic operator to the CA to request the contract documents.
Contract Documents	Sent by the CA to the economic operator. Contains all the documents (or a URL where they can be downloaded) allowing economic operators to prepare their tender.

2.3.2 REQUEST TO PARTICIPATE

In response to the corresponding contract notice, economic operators may request to participate by sending the required information (legal, economic, financial and technical information) to the Contracting Authority.

The request is duly signed by the economic operators and sent to the Contracting Authority.

The request to participate is received by the e-tendering platform or directly by the Contracting Authority, which time-stamps it, and checks the reception date against the deadline defined in the contract notice. The economic operator is notified whether his request to participate is accepted (If appropriate, the economic operator may be informed whether his request has been properly digitally signed and/or received on time according to the predefined deadline mentioned in the contract notice); these features are outside the scope of this study).

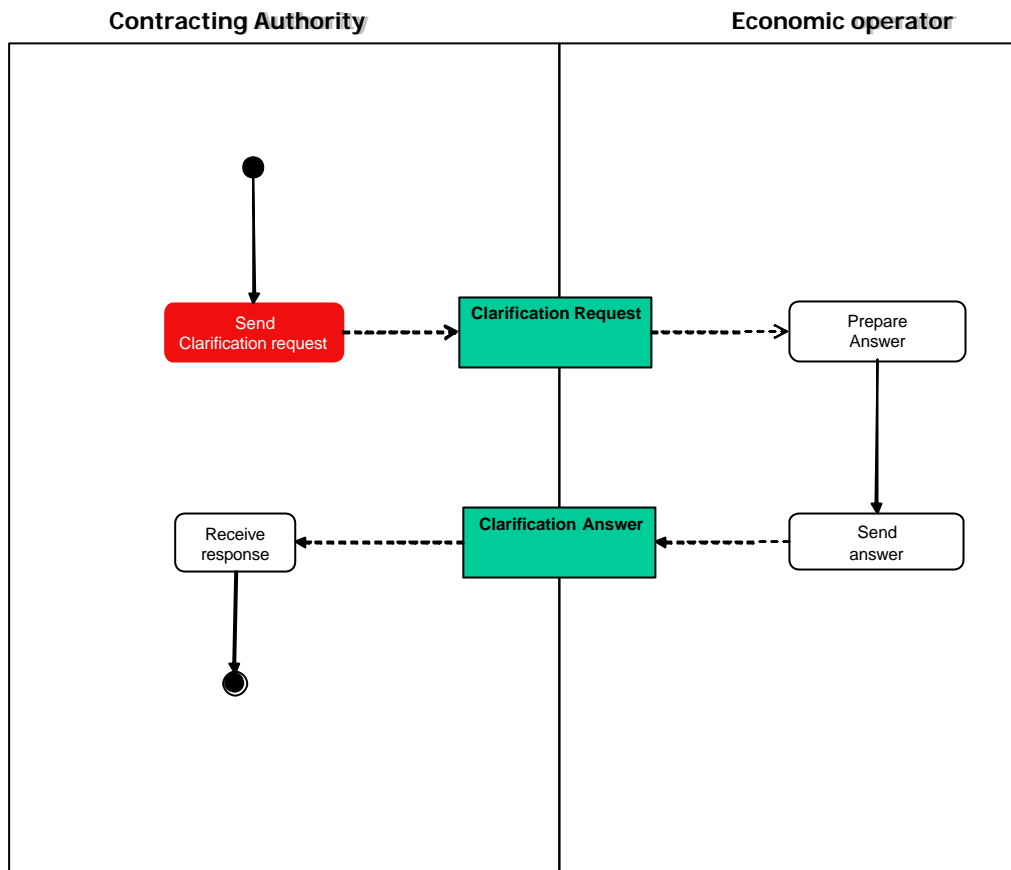


Messages	Description
Request to participate	Sent by an economic operator to the CA to request participation. Contains all required information.
RTP Response	Sent by the CA to an economic operator in response to a previous request to participate to acknowledge receipt of RTP.

2.3.3 CA CLARIFICATIONS / SUPPLIER ANSWERS

After a supplier has requested to participate or has submitted his tender, the Contracting Authority may request some clarifications to an economic operator regarding information related to his request to participate or tender.

The economic operator will provide the CA with a reply to his clarification request.



e-Tendering: CA clarifications / Supplier answers

Messages	Description
Clarification Request	Clarification request sent by the CA to a supplier regarding his request to participate or tender.
Clarification Answer	Reply sent by the supplier to the CA in response to a <i>Clarification Request</i> .

Note: This process is exactly the same than the one that is described later on for the “Supplier questions and Contracting Authority answers” process. The only difference is the parties who do not play the same role.

2.3.4 SHORT-LISTING

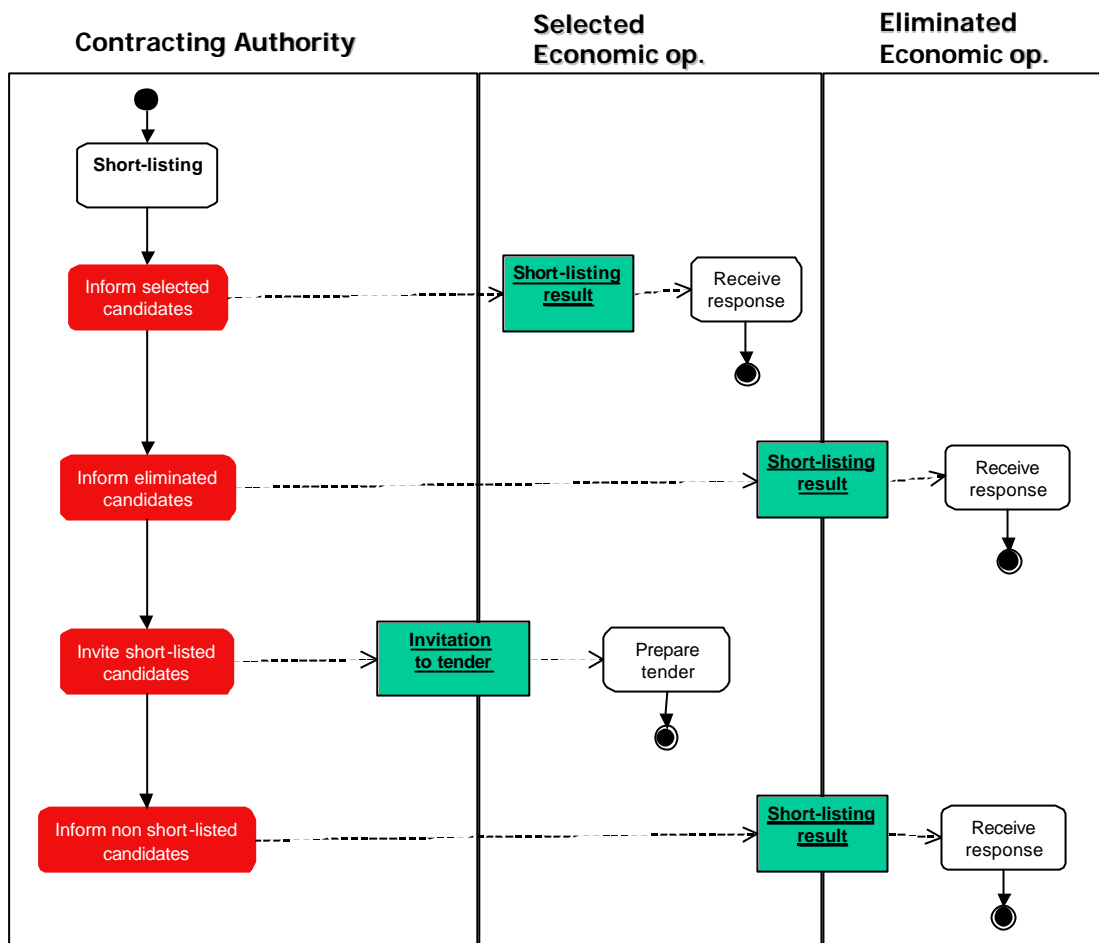
After the deadline for submitting requests to participate has been reached, the CA opens and assesses the requests. It may then short-list a limited number of economic operators. It informs all economic operators of the results of the short-listing process. All economic operators whose request has been rejected must be notified of their rejection and the reasons for it.

The short-listing process is internal to the CA and therefore is not designed in our model.

2.3.5 INVITATION TO TENDER OR TO PARTICIPATE IN A DIALOGUE

The CA invites some or all pre-selected economic operators to tender. This applies also in the case of a re-opening of competition between several economic operators within a Framework Agreement.

When using an e-tendering platform, the CA uploads the contract documents and makes them available to the economic operators it has invited to participate or tender.



e-Tendering: Invitation to tender

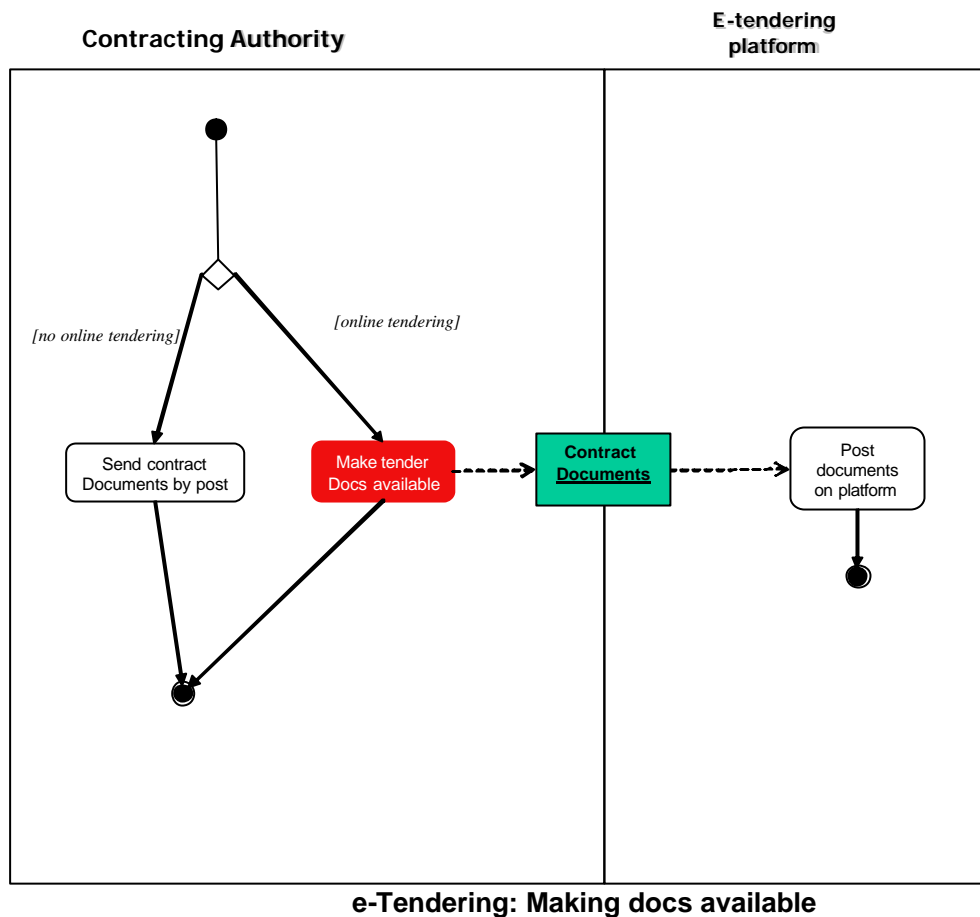
Messages	Description
Short-listing result	Notification of rejected economic operators by the CA of the result of the short-listing process
Invitation to tender	Sent by the CA to an economic operator in order to invite him to submit a tender, after a previous request to participate.

2.3.6 MAKING TENDER DOCUMENTS AVAILABLE

Note: The process description for *making descriptive document available* (Competitive Dialogue) is identical.

The Contracting Authority makes tender documents available to short-listed economic operators by posting them on the e-tendering platform.

In case of restricted procedures, only selected candidates can download those documents from the e-tendering platform. A pointer to those documents will be included in the invitation to tender that the tenderer will receive.



Messages	Description
Contract Documents	Upload within the e-tendering platform by the CA. Comprise all the documents allowing economic operators to prepare their tender.

2.3.7 DIALOGUE & NEGOTIATION

These two procedures can take very different forms and require a lot of offline exchanges. We have therefore chosen not to model the corresponding processes.

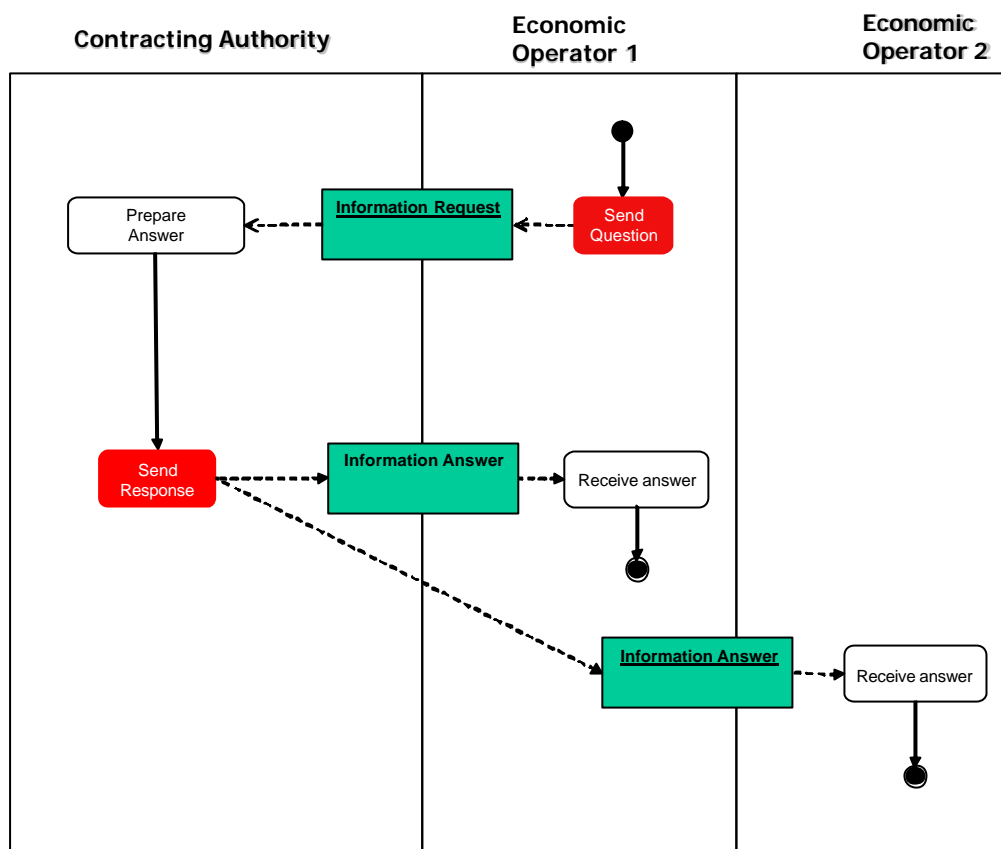
2.3.8 SUPPLIER QUESTIONS AND CA ANSWERS

Economic operators may send questions (*Information requests*) to the Contracting Authority. The Contracting Authority sends the reply to all economic operators who have been invited to tender or who have registered with the platform (in the case of an open procedure).

In practice, Contracting Authorities usually do not send answers one by one but by grouped series to all economic operators.

Note that economic operators will receive answers to questions that they have not asked themselves. To preserve equality of treatment, the following conditions must be respected:

- The *Information answer* message MUST contain the full questions along with their answers;
- The name of the author of the questions MUST not be mentioned in the *Information answer* message.



e-Tendering: Supplier questions and CA answers

Messages	Description
Information Request	Question sent by the economic operator to the CA.
Information Answer	One or more questions with their answer(s) sent by the CA to economic operators.

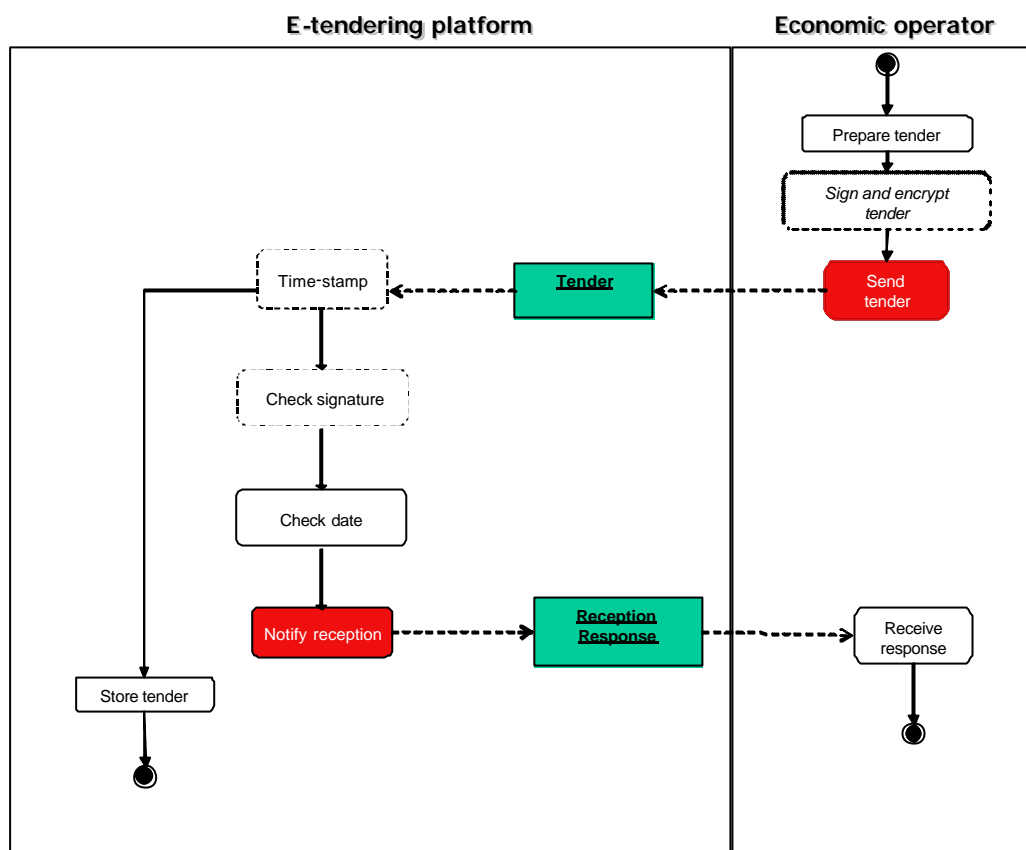
2.3.9 TENDER SUBMISSION

To submit his tender electronically, the economic operator prepares his tender and then sends it to the e tendering platform.

The economic operator may sign and encrypt it before uploading it. However, verification and evaluation of safety requirements (i.e. time stamping, signature features, etc.) constitute a separate process. Its sequencing depends on the type of security device used (PKI, PIN). Moreover, time -stamping and use of the digital signature may involve interactions with third parties. These are mainly exchanges at the software or hardware level that are not considered in our model and therefore, do not appear in the schema below.

The submission date of the tender MAY be checked against the deadline defined in the contract notice.

The e-tendering platform stores all submitted tenders in a secure vault. It issues a reception response to acknowledge receipt of the submitted tender.



e-Tendering: Tender submission

Messages	Description
Tender	Offer sent by the economic operator to the CA. A tender may take the form of an electronic catalogue.
Reception Response	Sent by the CA to an economic operator in response to a tender submitted. It acknowledges the receipt of the tender submitted.

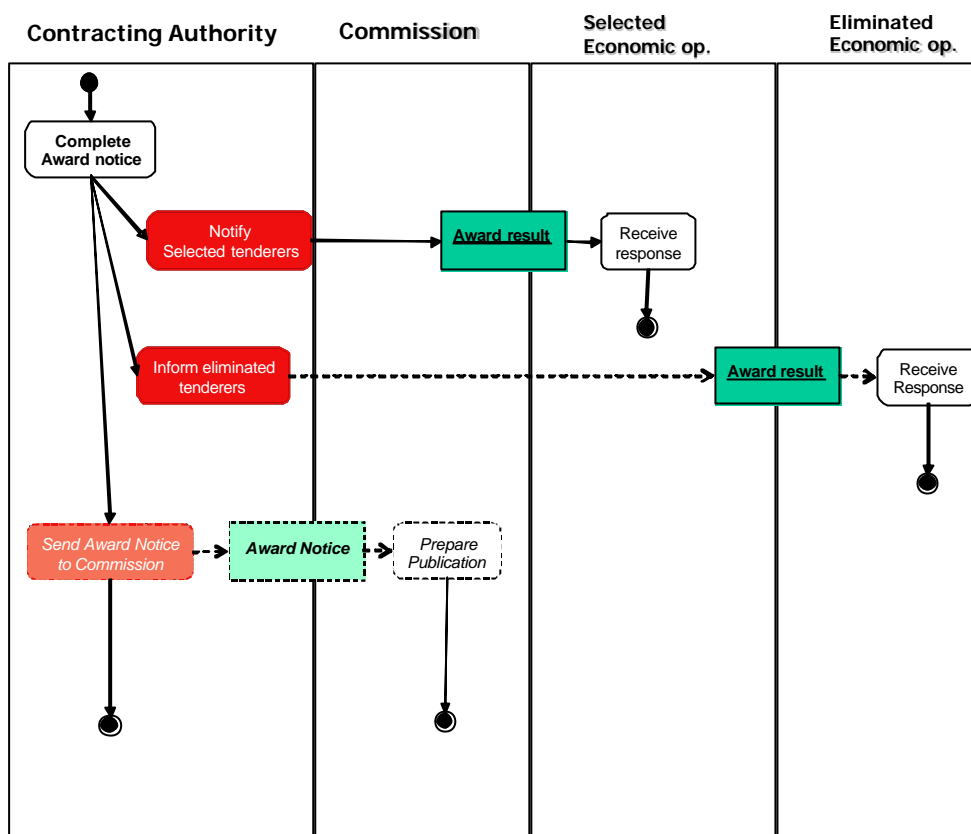
2.3.10 CONTRACT AWARD

This process consists in awarding a contract to the economic operator who has submitted the lowest price or the most economically advantageous tender.

This process is internal to the CA and therefore not included in the model.

2.3.11 AWARD NOTIFICATION

The Contracting Authority must inform all participants of the result of the award as soon as possible. The CA must also send an award notice to the Commission for publication on the OJEU. This step is not covered by our model since it is part of the Notification phase operated by the Publications Office.

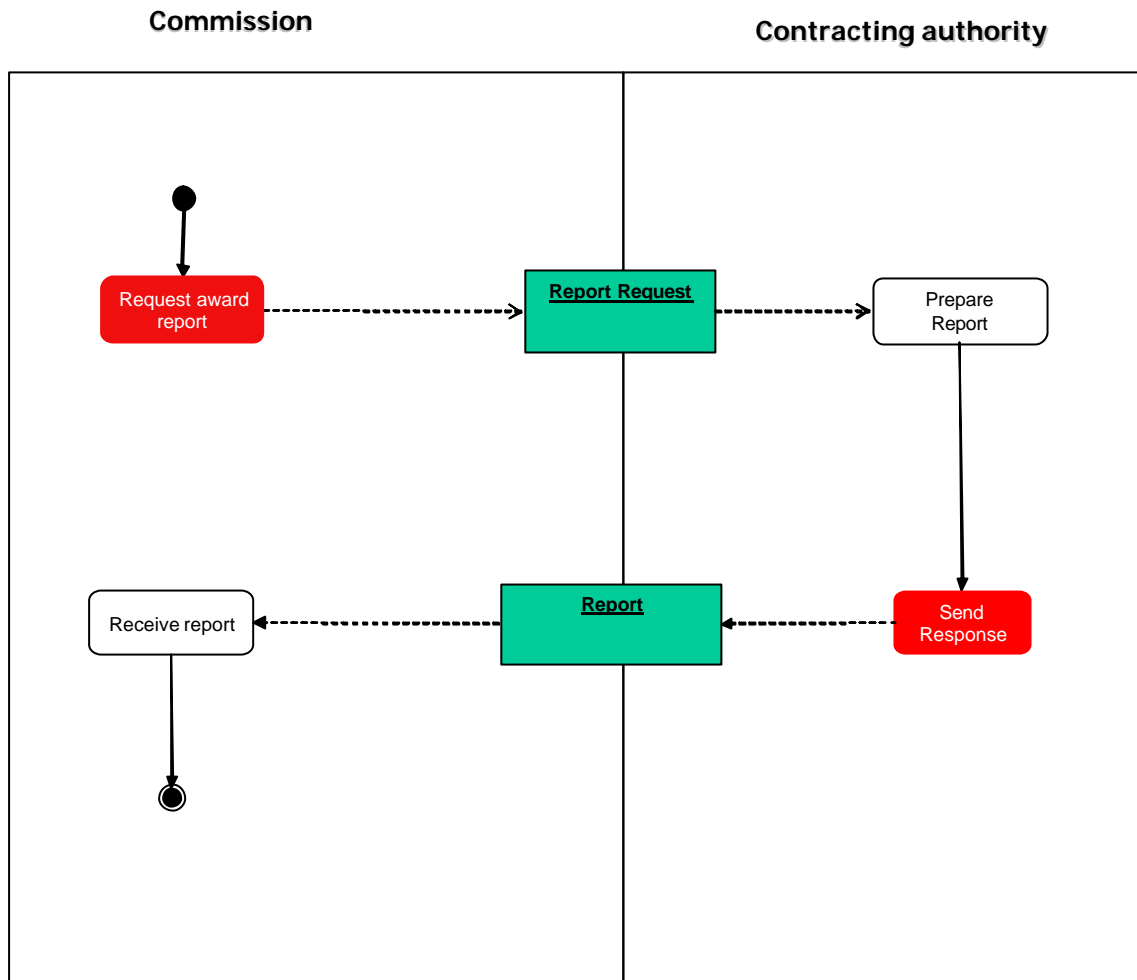


e-Awarding: Award Notification

Messages	Description
Award Notice	Sent by the CA to the Commission for publication in the Official Journal, using the corresponding standard form. This message is not described in our mode since it is part of the Notification phase.
Award Result	Notification of the tenderers by the CA of the result of the awarding process..

2.3.12 AWARD REPORTING

For every contract, the Contracting Authority shall draw up a written report and send it to the Commission upon request.



e-Awarding: Award report

Messages	Description
Report request	Sent by the Commission to request a report on a particular awarding procedure.
Report	Report on the given awarding procedure sent by the CA to the Commission.

3 INFORMATION MODEL

3.1 INTRODUCTION

This section defines the Information Model for the different business processes that are described in the previous section.

The Information Model is composed of:

- A set of 3 re-usable components, organised into packages, that are involved in the different business messages:
 - TenderingDocument;
 - Party;
 - Data type;
- A Message Model that describes the 15 business documents identified in the business process description (2. *Business requirements*, page 7) as follows:
 - ContractDocumentsRequest;
 - ContractDocuments;
 - RequestToParticipate;
 - RTPResponse;
 - ClarificationRequest;
 - ClarificationAnswer;
 - ShortListingResult;
 - InvitationToTender;
 - InformationRequest;
 - InformationAnswer;
 - Tender;
 - ReceptionResponse;
 - AwardResult;
 - ReportRequest;
 - Report.

For each UML diagram, all classes and attributes are listed and defined, with:

- The name of the attribute,
- A description of the attribute,
- The data type of the attribute,
- The cardinality of the attribute (whether it is mandatory or not and how many values it can have).

3.1.1 GENERAL PRINCIPLES AND ASSUMPTIONS

Combination of paper and electronic exchanges: any business transaction can be carried out through electronic means (even if other business transactions in the same procurement cycle are carried out through paper, including exchanges with third parties).

Simplicity: the model should be simple in order to facilitate its adoption by all. To ensure that the IDA model remains simple enough, we decided to apply the following rule:

“In order for a piece of information to be added to the model:

- Someone should provide a well defined business case where this information is necessary and used

AND

- It should be proven that this information could be processed automatically in a reliable manner and that this represents an important benefit.”

Otherwise this information should be added to the free text notes attributes at either document or line level.

3.1.2 GENERIC RULES

All information exchanged between the Contracting Authority and the supplier shown on the UML diagrams in 2. *Business requirements* constitutes a business document.

Each of the business documents mentioned above corresponds to a class (called *Business document class*) with the same name in the *Document* package.

All business document classes are a specialisation of the *Document* class which contains all information common to all business documents.

All business documents MAY carry a digital signature.

All business documents refer to a specific *Contract* which MUST be described by a name, a description, a reference number and the reference of the corresponding contract notice.

All business documents MAY contain attachments.

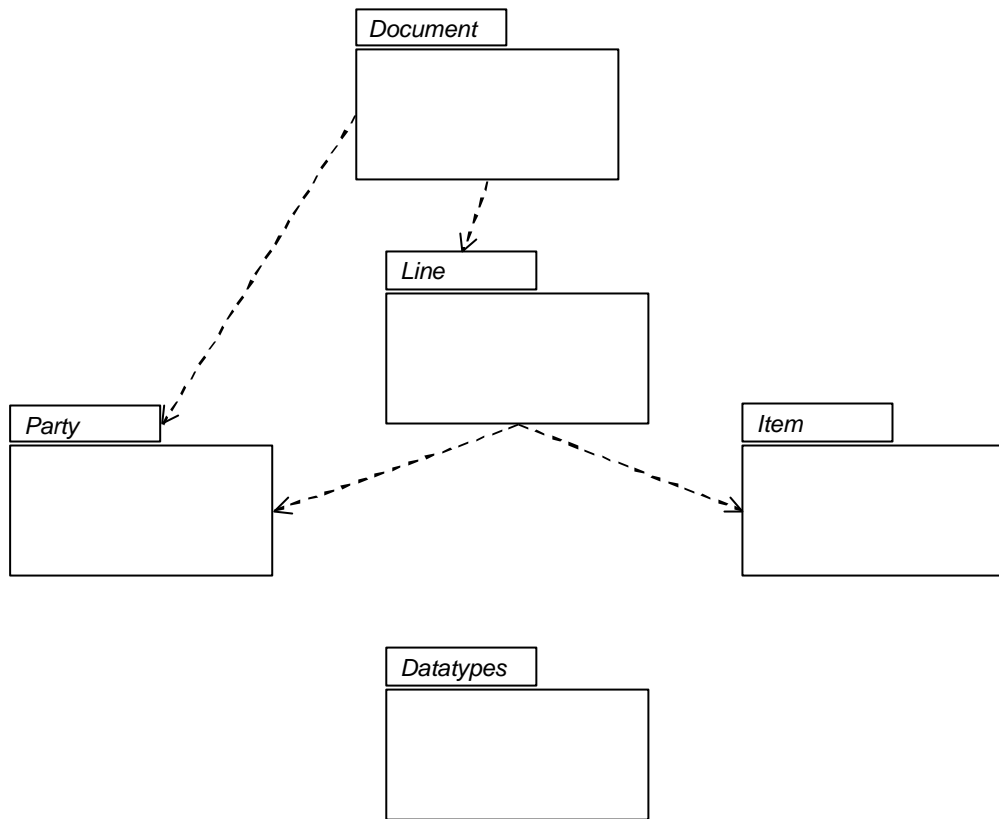
3.2 PACKAGE DESCRIPTION

The model is organised into 3 different packages (these are also shared with the e-procurement data model for e-Ordering and e-Invoicing):

- **Document** package, containing general information related to a given business document as well as the related contract;
- **Party** package, containing information on each party (party and contact person details, addresses and bank data) ;
- **Datatypes** package, containing the data types used throughout the whole model.

The package diagram of the global UML model is illustrated below. Arrows designate the references between packages. The *Datatypes* package is used by all other packages².

² In order to simplify the package diagram, arrows between all the packages to the *Datatypes* package are not shown.

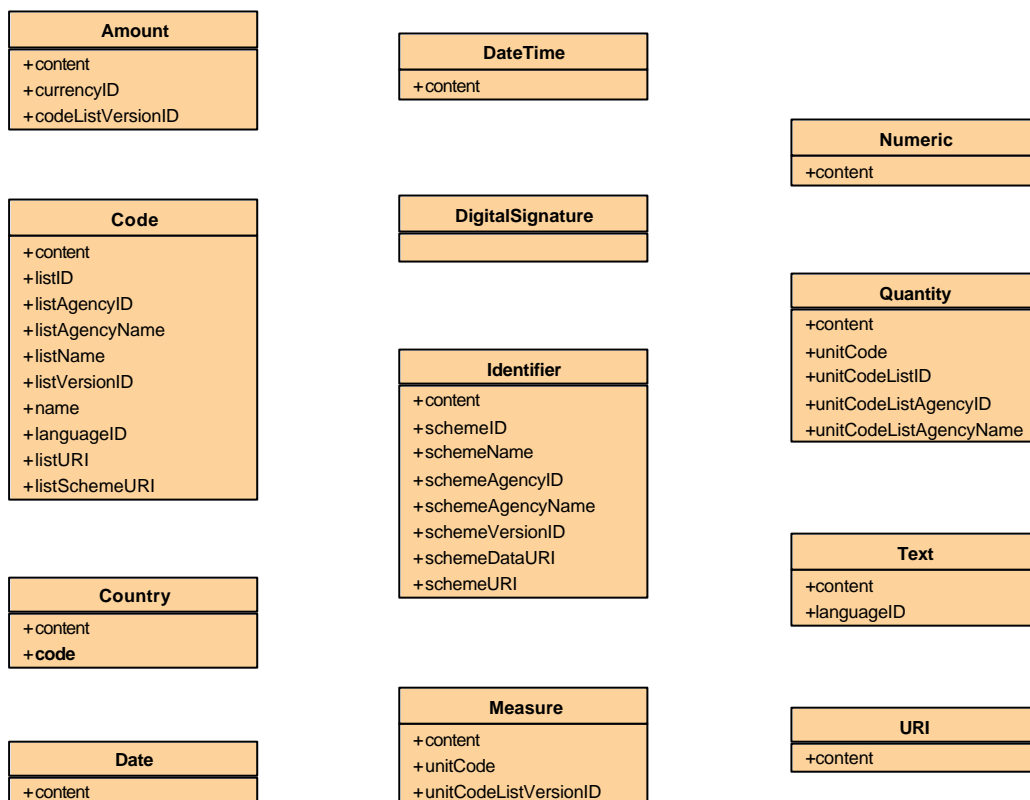


This diagram also presents packages used in the eprocurement data model for eOrdering and eInvoicing. However, the *Line* and *Item* packages are not used in the current data model scenario focused on the e Tendering and eAwarding phases.

3.2.1 THE DATATYPES PACKAGE

Data types correspond to UBL/Core components data types and representation terms. They have been completed with other ones (URI, DigitalSignature and CountryCode)³.

The following picture shows the different data types used in the model:



Data type	Description
Amount	A number of monetary units specified in a currency where the unit of the currency is explicit or implied
Code	A character string (letters, figures, or symbols) that for brevity and/or language independence may be used to represent or replace a definitive value or text of an attribute together with relevant supplementary information.
DateTime	A particular point in the progression of date & time together with the relevant supplementary information
Date	A particular point in the progression of date together with the relevant supplementary information
Identifier	A character string to identify and distinguish uniquely, one instance of an object in an identification scheme from all other objects in the same scheme together with relevant supplementary information
Measure	A numeric value determined by measuring an object along with the specified unit of measure
Numeric	Numeric information that is assigned or is determined by calculation, counting, or sequencing. It does not require a unit of quantity or unit of measure

³ The definition of the different attributes is given in the ebXML Core Components technical specifications.

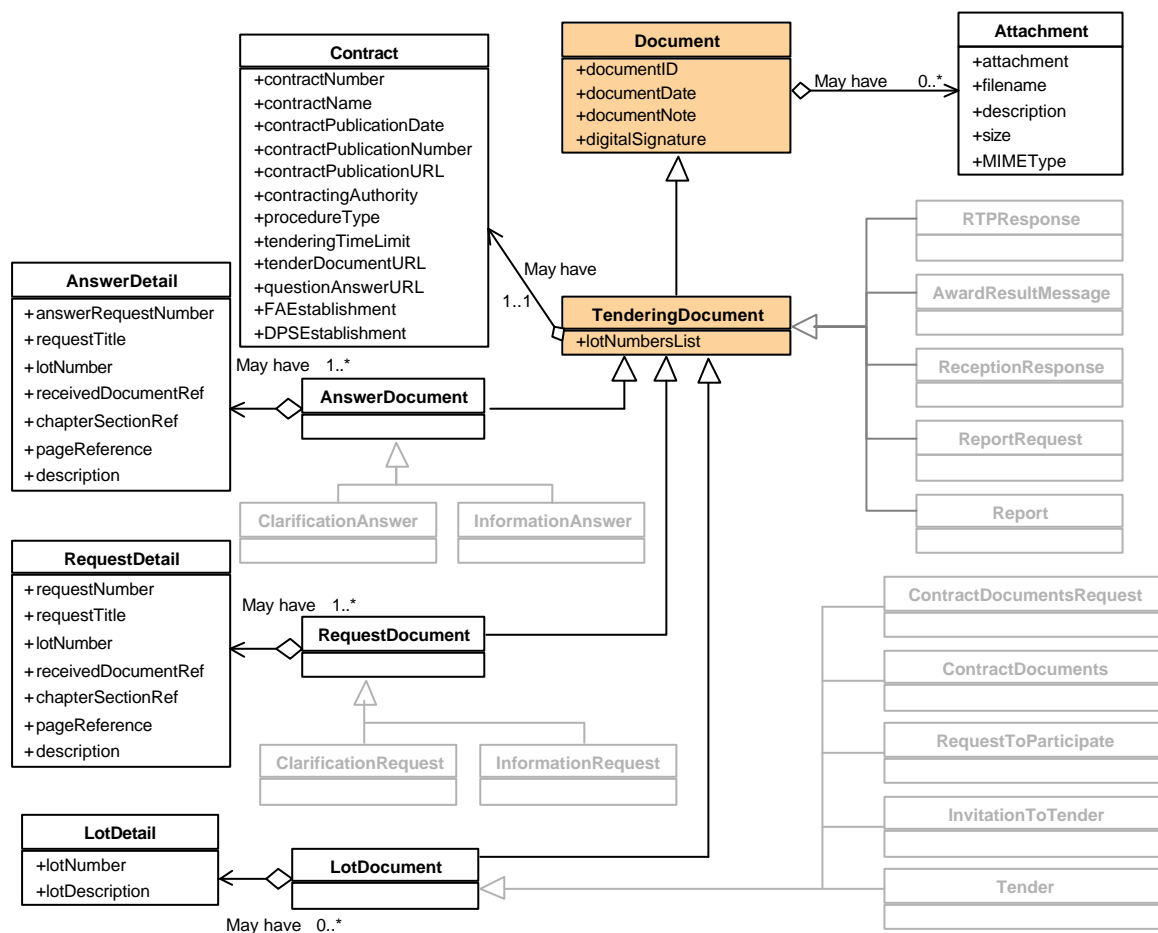
Data type	Description
Quantity	A counted number of non-monetary units possibly including fractions along with the specified unit of quantity
Text	A character string (i.e. a finite set of characters) generally in the form of words of a language
URI	Uniform Resource Identifier
DigitalSignature	A digital signature of a document. Content correspond to W3C XML Signature.
Country	The ISO country code along with the optional name of the related country

International code lists used in the model:

Code type	International code list
Country	ISO 3166
Language	ISO 639

3.2.2 THE DOCUMENT PACKAGE

The **Document Package** UML class diagram is illustrated below.



A specific section is dedicated to the description of each business document class.

Attribute	Description	Type	Cardinality
Document			
This class contains general information which allows identifying documents			
documentID	The document identifier in the sender's system	Identifier	1..1

Attribute	Description	Type	Cardinality
documentDate	Date & time when the document has been issued	DateTime	1..1
documentNote	Free text note on document	Text	0..1
digitalSignature	The digital signature for the whole of the document payload	DigitalSignature	0..1
TenderingDocument			
This class is a specialisation of Document that contains information related to the lots to which they refer			
lotNumbersList	The lot numbers that are concerned within the business document (for a specific transaction). It is not the list of all the lots of the contract	Text	0..1
Contract [1..1]			
This class contains general information which allows identifying a contract that governs a transaction			
contractReference	The reference of the contract	Text	1..1
contractName	A short description of the contract	Text	1..1
contractPublicationDate	The publication date of the contract	DateTime	0..1
contractPublicationNumber	The publication number of the contract on OJEU	Text	0..1
contractPublicationURL	The publication URL of the contract on OJEU	URI	0..1
contractingAuthority	The Contracting Authority name that has issued the contract	Text	1..1
procedureType	Type of procedure	Code	1..1
tenderingTimeLimit	Deadline for tendering to the contract	DateTime	0..1
tenderDocumentURL	URL where the tender documents are accessible	URI	0..1
questionAnswerURL	URL where the questions/answers are accessible	URI	0..1
FAEstablishment	Is there a framework agreement for the contract?	Code	0..1
DPSEstablishment	Is there a DPS for the contract?	Code	0..1
Attachment [0..*]			
This class allows attaching files (PDFs, DOC, XLS, images, ...) or URL to a document			
attachment	Attached files or URLs to support in particular strong audit trails and non-repudiation	URI	1..1
description	Free text describing the purpose of the attachments to which it refers	Text	0..1
fileName	File name of the attached file	Text	0..1
MIMETYPE	MIME type of the attached file	Code	0..1
size	Size of the related attachment	Measure	0..1
LotDocument			
This class inherits from TenderingDocument and contains information relating to the lot(s) associated to the document			
LotDetail [0..*]			
List and description of the lots to which the document refers			
lotNumber	Number of the lot of the contract which is concerned	Text	1..1
lotDescription	Free text describing the purpose of the attachments to which it refers	Text	1..1
RequestDocument			
This class inherits from TenderingDocument and contains information relating to a request			
RequestDetail [1..*]			
This class provides information on the request as well as on the document or the document's part to which the request refers			
requestNumber	Number of the request	Text	0..1
requestTitle	Free text describing the purpose of the request	Text	0..1
lotNumber	Number of the lot of the contract which is concerned	Text	0..1
receivedDocumentRef	The reference to the document that governs the request	Text	0..1
chapterSectionRef	The reference to the chapter and/or section of the document that governs the request	Text	0..1
pageReference	The reference to the page of the document that governs the request	Text	0..1

Attribute	Description	Type	Cardinality
description	Free text detailing the request	Text	1..1
AnswerDocument			
This class inherits from TenderingDocument and contains information relating to the answer to a request			
AnswerDetail [1..*]			
This class provides information on the answer as well as on the request and the document or document's part to which the request refers			
answerRequestNumber	Number of the request or of the answer if it is numbered differently	Text	0..1
requestTitle	Free text describing the purpose of the request	Text	0..1
lotNumber	Number of the lot of the contract which is concerned	Text	0..1
receivedDocumentRef	The reference to the document that governs the request	Text	0..1
chapterSectionRef	The reference to the chapter and/or section of the document that governs the request	Text	0..1
pageReference	The reference to the page of the document that governs the request	Text	0..1
description	Free text detailing the answer	Text	1..1

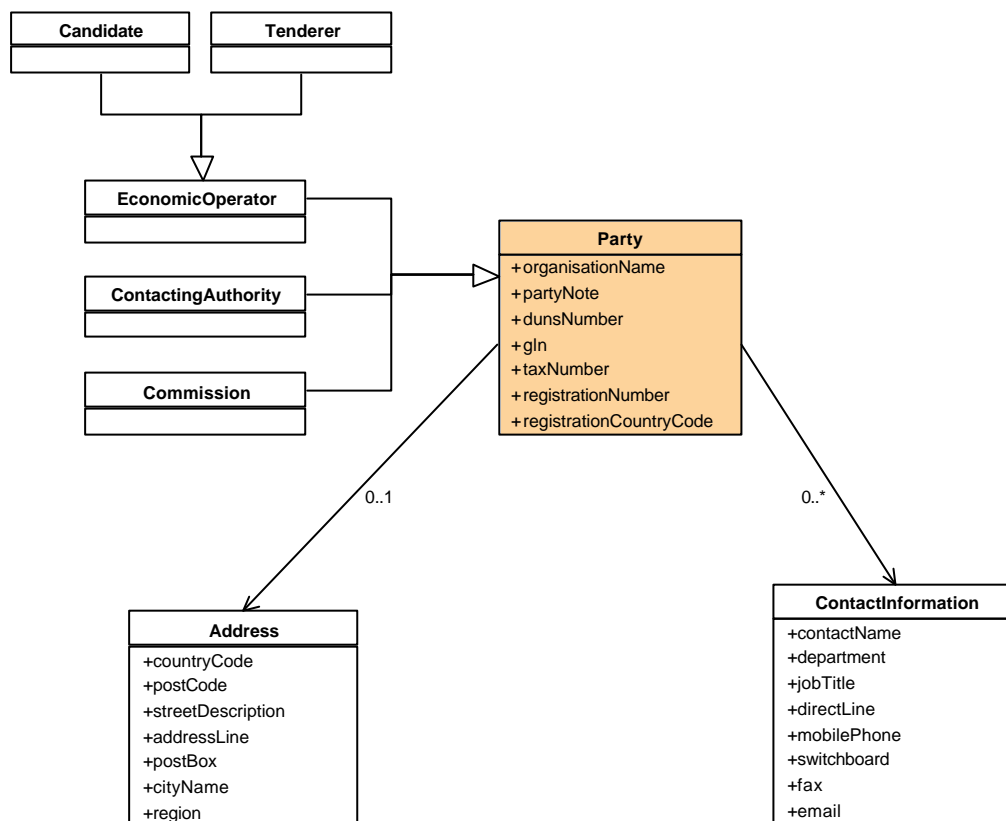
Note: Most of the attributes of the *Contract* class of the messages already exist in the official contract notices that have been, at this stage of the process, set and published on OJEU. However, in order for the XML schemas to be self-sufficient, the key information related to the contract is repeated in each transaction. Therefore, for more efficiency and consistency, the systems that will generate the messages could populate the information by retrieving it from OJEU or, below EU threshold, by connecting to the national similar platforms.

3.2.3 THE PARTY PACKAGE

The Party class manages information on the organisation and people involved in a Document.

Parties are composed of general information that allows identifying them. They also contain contact person details as well as postal and electronic addresses.

The **Party Package** UML class diagram is illustrated below.



Attribute	Description	Type	Cardinality
Party			
This class contains general information which allow identifying a party			
organisationName	The name of the organisation sending, receiving or referenced in any document	Text	1..1
partyNote	Free test that describes the party	Text	0..1
dunsNumber	An identifier assigned to a company in the D&B Company Register	Text	0..1
gln	A Global Location Number assigned to an organisation by the EAN.UCC	Text	0..1
taxNumber	The VAT number assigned to an organisation registered for tax by the relevant national authority	Text	1..1
registrationNumber	The company's registration number	Text	0..1
registrationCountryCode	The country where the organisation is registered	Code	0..1
ContactInformation [0..*]			
This class contains information which provides contact details relating to a party			
contactName	Name of the contact person of the organisation	Text	1..1
department	Name of the department to which the contact person belong	Text	0..1

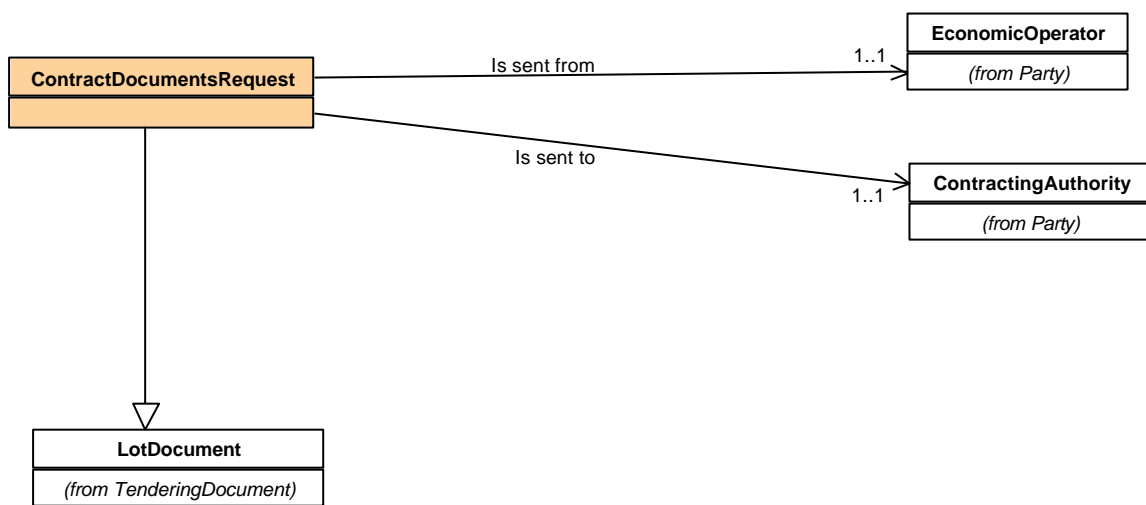
Attribute	Description	Type	Cardinality
jobTitle	Job title of the contact person	Text	0..1
directLine	Direct line of the contact person of the organisation	Text	0..1
mobilePhone	Mobile phone number of the contact person of the organisation	Text	0..1
switchboard	Switchboard of the organisation	Text	0..1
fax	Fax number of the contact person of the organisation	Text	0..1
email	Email address of the contact person of the organisation	Text	0..1
Address [0..1] This class provides information relating to the postal address of a party			
countryCode	Country code of the organisation	Country	1..1
postCode	Post code of the organisation	Text	1..1
streetDescription	Street description of the organisation	Text	0..1
addressLine	Lines that allows specifying additional information concerning the exact location of the party	Text	0..5
postBox	Postbox of the organisation	Text	0..1
cityName	City name of the organisation	Text	1..1
region	Region of the organisation	Text	0..1
ContractingAuthority Public buyer party (the public entity establishing a contract related to a specific purchase)			
EconomicOperator Supplier party			
Commission The Publications Office of the European Communities			
Candidate Economic operator who has sought an invitation to take part in a restricted or negotiated procedure or a competitive dialogue			
Tenderer Economic operator who submits a tender			

3.3 CLASS DESCRIPTION

3.3.1 CONTRACT DOCUMENTS REQUEST (OPEN PROCEDURE)

This class specifies the lots of the contract in which the economic operator is interested.

The **Contract Documents Request** UML class diagram is illustrated below.



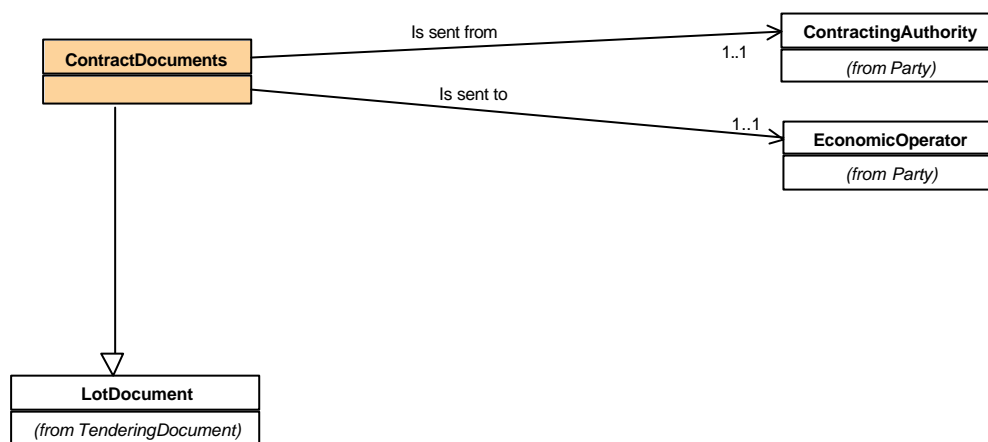
This class inherits from **LotDocument** and therefore contains all the attributes of the related class, already described above.

When applicable, the **LotDetail** must state the lots the economic operator has requested.

3.3.2 CONTRACT DOCUMENTS REPLY (OPEN PROCEDURE)

This class describes the detailed contract information the economic operator has requested to construct his bid, including lots.

The **Contract Documents** UML class diagram is illustrated below.



This class inherits from **LotDocument** and therefore contains all the attributes of the related class, already described above.

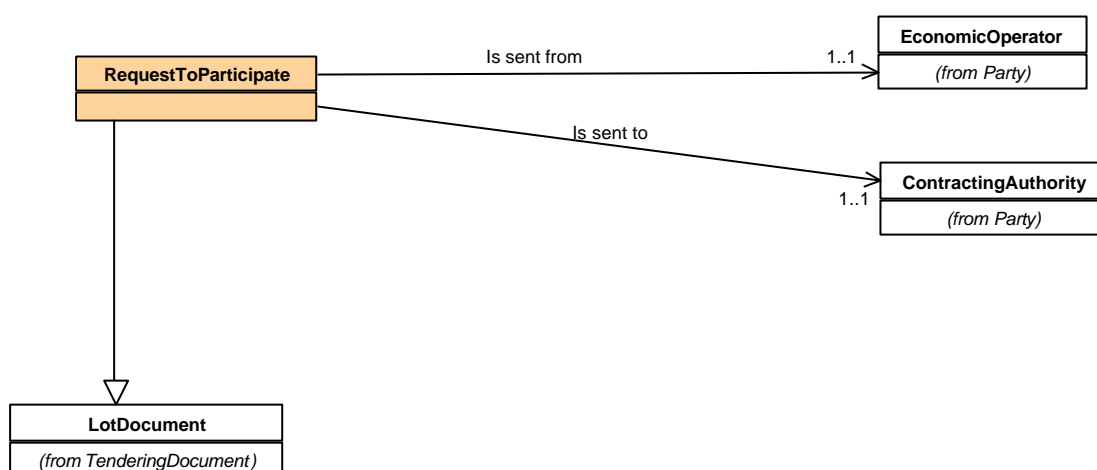
The contract documents sent are described with the *Attachment* class.

When applicable, the **LotDetail** must state the lots for which the candidate has requested to participate.

3.3.3 REQUEST TO PARTICIPATE (RTP)

This class specifies the lots of the contract for which the economic operator has requested to participate.

The **Request To Participate** UML class diagram is illustrated below.



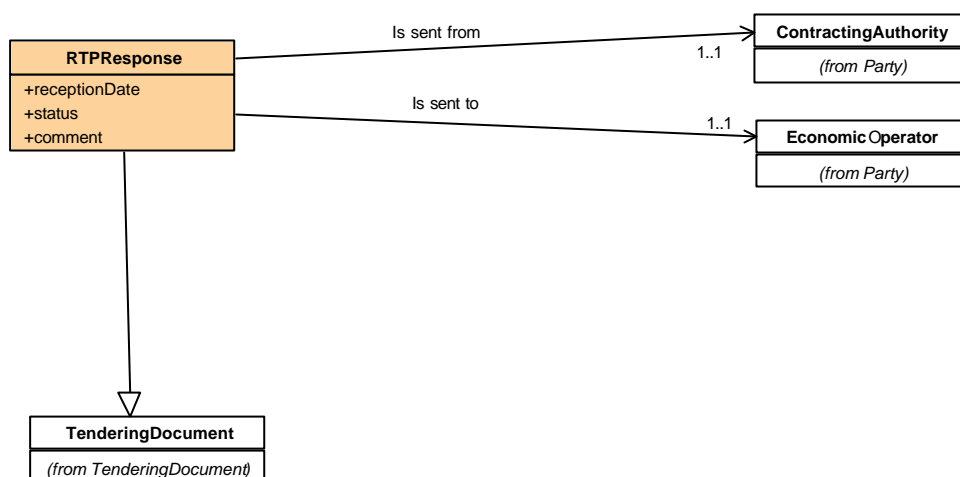
This class inherits from **LotDocument** and therefore contains all the attributes of the related class, already described above.

The documents required from the economic operators are described with the *Attachment* class.

When applicable, the **LotDetail** must state the lots for which the economic operator has requested to participate.

3.3.4 RTP RESPONSE

The **RTP Response** UML class diagram is illustrated below.

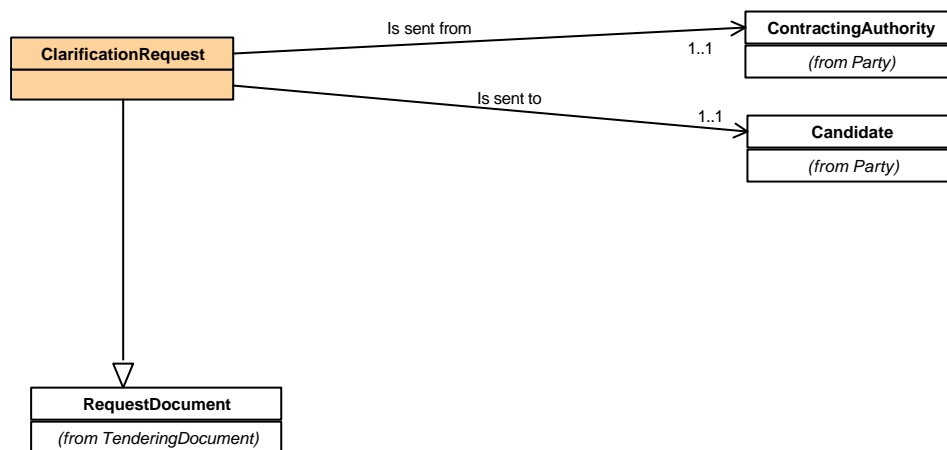


Attribute	Description	Type	Cardinality
RTPResponse This class inherits from TenderingDocument and contains information relating to the reception as well as to the status of the response			
status	Status of the response (Late, Signature error, Correct)	Code	1..1
receptionDate	Date & time of the reception of the response	DateTime	1..1
comment	Free text for the request's response	Text	0..1

3.3.5 CLARIFICATION REQUEST

This class contains information relating to clarifications requested by the CA. It has the same structure than the *InformationRequest* class that is described later on, in the chapter.

The **Clarification Request** UML class diagram is illustrated below.



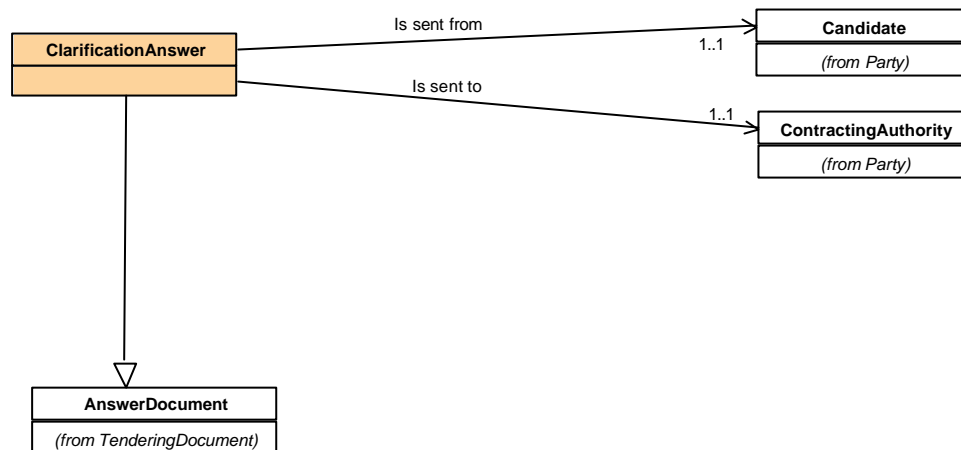
This class inherits from **RequestDocument** and therefore contains all the attributes of the related class, already described above.

When applicable, the **LotDetail** must state the lots concerned by the request (the lots the candidate plans to bid for).

3.3.6 CLARIFICATION ANSWER

This class contains information relating to the clarifications' answers given by the candidate. It has the same structure than the *InformationAnswer* class that is described later on, in the chapter.

The **Clarification Answer** UML class diagram is illustrated below.



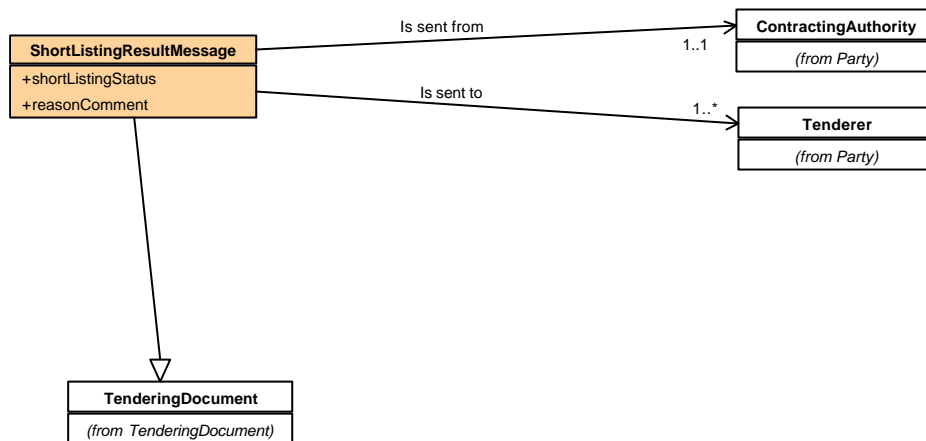
This class inherits from **AnswerDocument** and therefore contains all the attributes of the related class, already described above.

When applicable, the **LotDetail** must state the lots concerned by the request (the lots the candidate plans to bid for).

Note: For the *Clarification Answer* message, if specified, the *answerRequestNumber* attribute MUST use the same request numbering as in the *Clarification Request*

3.3.7 SHORT-LISTING RESULT

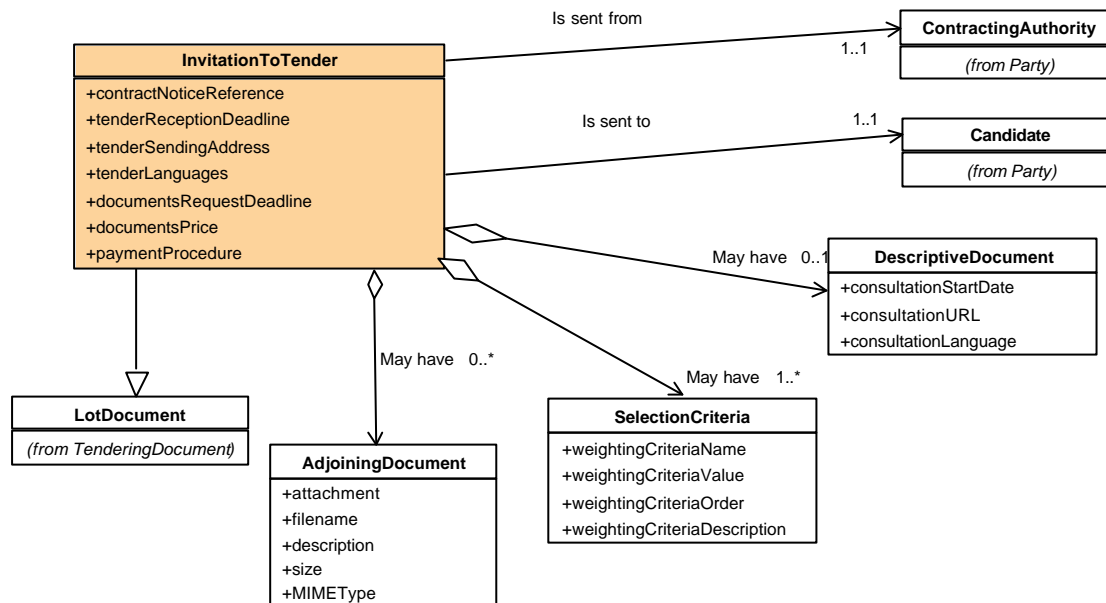
The **Short-listing Result Message** UML class diagram is illustrated below. It has the same structure than the *AwardResultMessage* class that is described later on, in the chapter.



Attribute	Description	Type	Cardinality
ShortListingResultMessage This class inherits from TenderingDocument and contains information relating to the results of the short-listing phase			
shortListingStatus	The response status (Rejected, Short-listed)	Code	0..1
reasonComment	Free text for the request's response	Text	0..1

3.3.8 INVITATION TO TENDER

The **Invitation To Tender** UML class diagram is illustrated below.



Attribute	Description	Type	Cardinality
InvitationToTender			
This class inherits from LotDocument and contains information relating to the invitation to tender			
tenderReceptionDeadline	Deadline for the receipt of the tender	DateTime	1..1
tenderSendingAddress	Address to which the tender must be sent	Text	1..1
tenderLanguages	Language(s) in which the tender must be drawn up	Code	1..1
documentsRequestDeadline	Deadline for requesting the specifications or the descriptive document (in case of a competitive dialogue) and any other supporting documents	DateTime	1..1
documentsPrice	The sum payable for obtaining the specifications or the descriptive document (in case of a competitive dialogue) and any supporting documents	Amount	0..1
paymentProcedure	The payment procedure	Text	0..1
AdjoiningDocument [0..*]			
Reference to any possible adjoining documents to be submitted by the candidate			
attachment	Attached files or URLs to support in particular strong audit trails and non-repudiation	URI	1..1
description	Free text describing the purpose of the attachment	Text	1..1
fileName	File name of the attached file	Text	0..1
MIMEType	MIME type of the attached file	Code	0..1
size	Size (in Ko) of the related attachment	Measure	0..1
SelectionCriteria [1..*]			
This class contains information on the selection criteria that will be applied in the award procedure			
weightingCriteriaName	Name of the selection criteria	Text	1..1

Attribute	Description	Type	Cardinality
weightingCriteriaValue	Value of the selection criteria (percentage, number)	Text	1..1
weightingCriteriaOrder	Order of importance of the selection criteria	Numeric	0..1
weightingCriteriaDescription	Description of the criteria for the award process	Text	1..1
DescriptiveDocument [0..1] This class contains information relating to the competitive dialogue procedure			
consultationStartDate	Date set for the start of consultation	DateTime	1..1
consultationURL	URL set for the start of consultation	URI	1..1
consultationLanguage	Language(s) used for the consultation	Code	1..*

An invitation to tender MAY contain in attachment all necessary documents. However, documents that the tenderer will have to submit with his tender have to be identified/specified in the AdjoiningDocument.

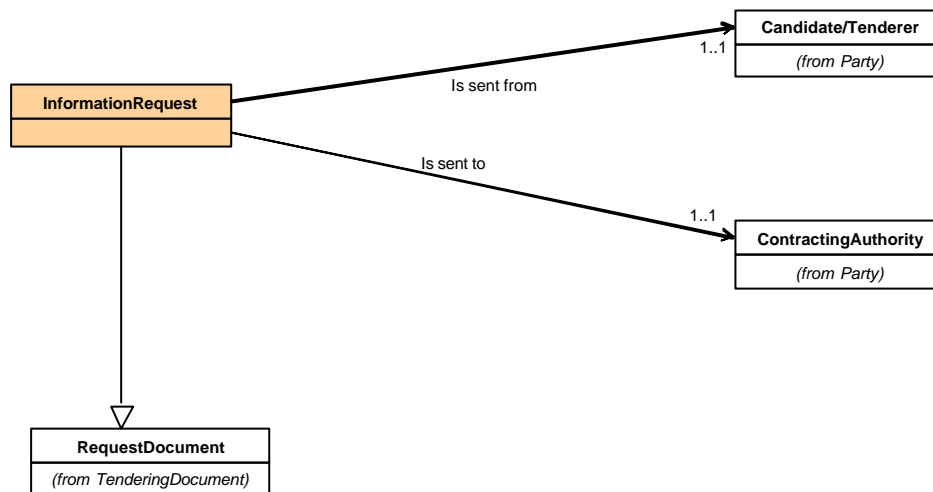
Directives reference:

§ Article 40: Invitations to submit a tender participate in the dialogue or negotiate

3.3.9 INFORMATION REQUEST

This class contains information relating to additional information requested by the candidate or tenderer.

The **Information Request** UML class diagram is illustrated below.

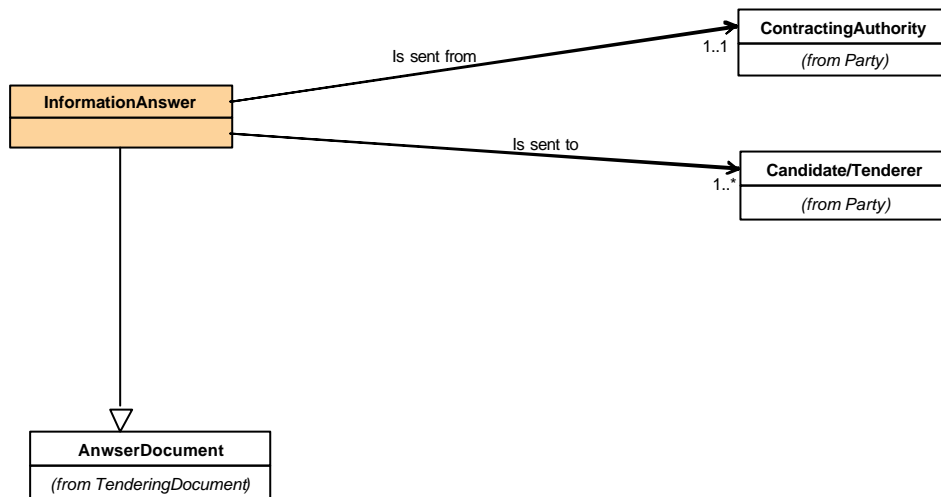


This class inherits from **RequestDocument** and therefore contains all the attributes of the related class, already described above.

3.3.10 INFORMATION ANSWER

This class contains information relating to the information's answers given by the Contracting Authority.

The **Information Answer** UML class diagram is illustrated below.



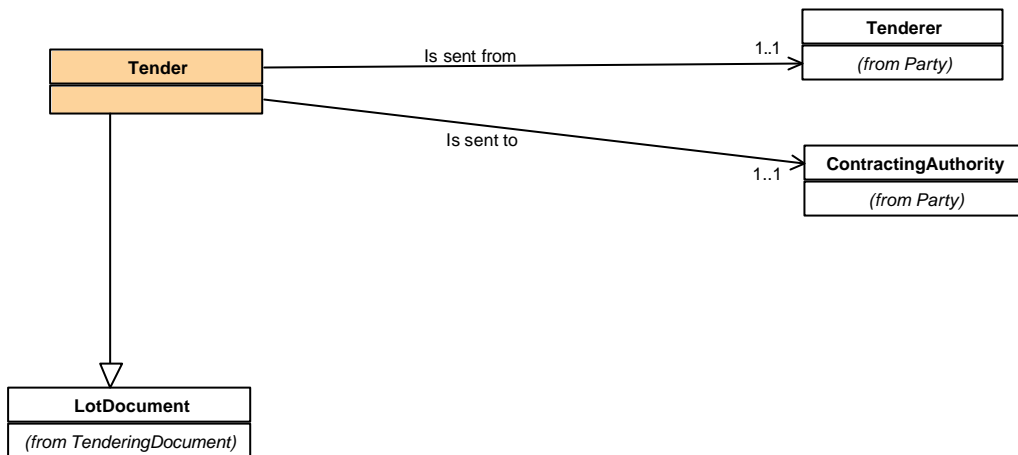
This class inherits from AnswerDocument and therefore contains all the attributes of the related class, already described above.

Note:

- This message has to be sent to ALL the tenderers,
- For the *Information Answer* message, the *answerRequestNumber* attribute uses a new numbering, different from the ones used for the *Information Request*.

3.3.11 TENDER

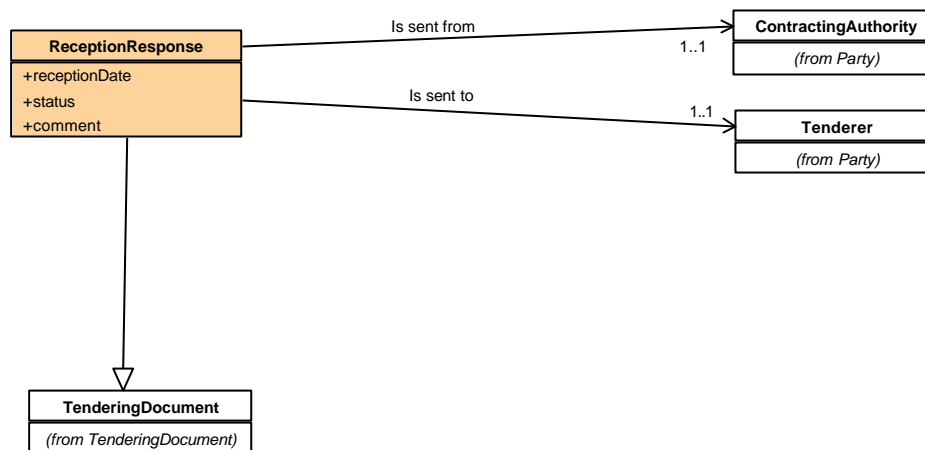
This class contains information relating to the tender submitted by the candidate or tenderer. The **Tender** UML class diagram is illustrated below.



This class inherits from **LotDocument** and therefore contains all the attributes of the related class, already described above.

3.3.12 RECEPTION RESPONSE

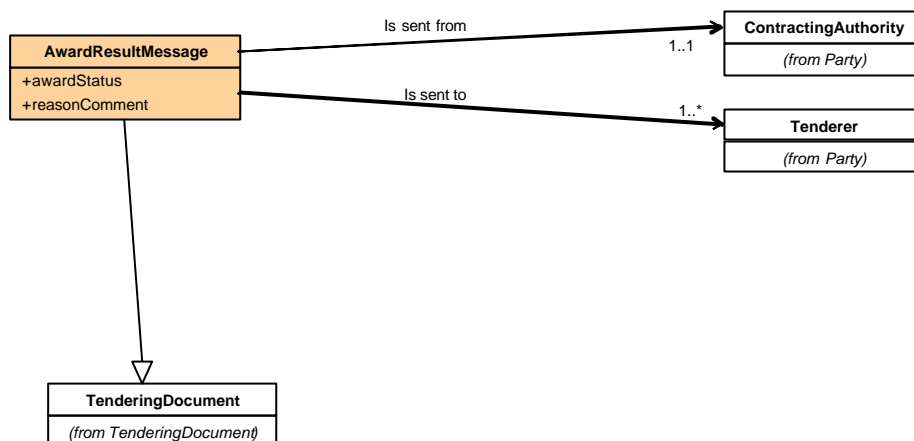
The **Reception Response** UML class diagram is illustrated below.



Attribute	Description	Type	Cardinality
ReceptionResponse This class inherits from TenderingDocument and contains information relating to the reception as well as to the status of the tender			
status	Status of the response (Late, Signature error, Correct)	Code	1..1
receptionDate	Date & time of the reception of the response	DateTime	1..1
comment	Free text for the request's response	Text	0..1

3.3.13 AWARD RESULT

The **Award Result Message** UML class diagram is illustrated below.



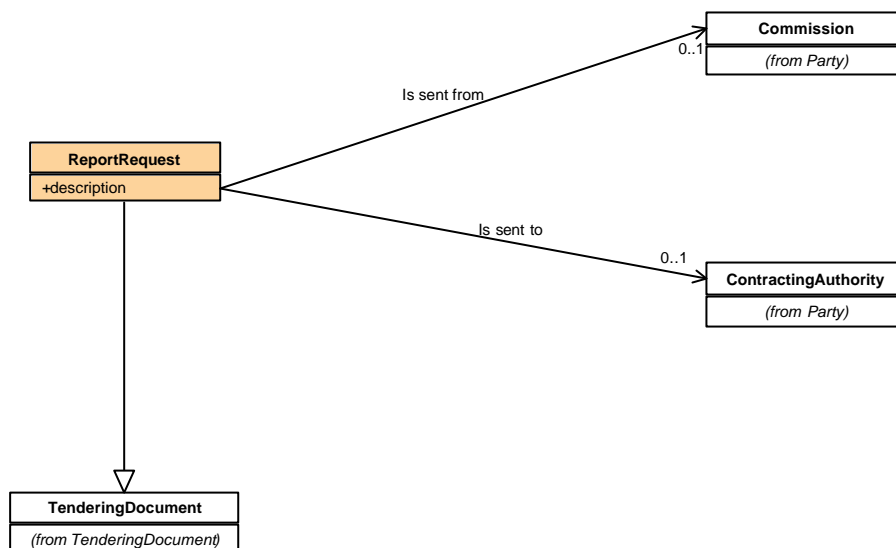
Attribute	Description	Type	Cardinality
AwardResultMessage			
This class inherits from TenderingDocument and contains information relating to the results of the award procedure			
awardStatus	The response status (Rejected, Short-listed, Selected)	Code	0..1
reasonComment	Free text for the request's response	Text	0..1

Directives reference:

§ Article 41: Informing candidates and tenderers

3.3.14 REPORT REQUEST

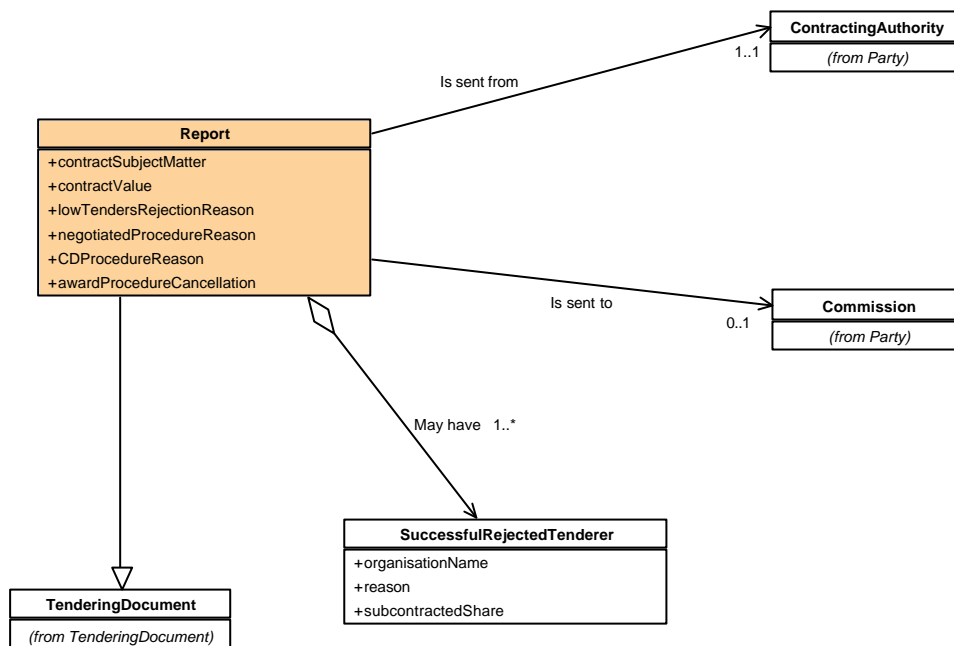
The **Report Request** UML class diagram is illustrated below.



Attribute	Description	Type	Cardinality
ReportRequest This class inherits from TenderingDocument and contains information relating to the request, from the Commission, of the award procedure progress report			
description	Free text for the report's request	Text	1..1

3.3.15 REPORT

The **Report** UML class diagram is illustrated below.



Attribute	Description	Type	Cardinality
Report This class inherits from TenderingDocument and contains information relating to the award procedure progress report that has been requested by the Commission			
contractSubjectMatter	Subject matter of the contract or framework agreement	Text	1..1
contractValue	Value of the contract or framework agreement	Amount	1..1
lowTenderRejectionReason	Reasons for the rejection of tenders found to be abnormally low	Text	0..1
negotiatedProcedureReason	Circumstances which justify the use of the negotiated procedure	Text	0..1
CDProcedureReason	Circumstances which justify the use of the competitive dialogue procedure	Text	0..1
awardProcedureCancellation	Reasons why the CA has decided not to award a contract or framework agreement	Text	0..1
SuccessfulRejectedEconomicOperator [1..*] This class contains information relating to the results of the award procedure			
organisationName	The name of the organisation of the successful or rejected economic operator	Text	1..1
reason	Reason for the selection or rejection of the successful or rejected candidates and tenderers	DateTime	1..1
subcontractedShare	Share of the contract or framework agreement which the successful tenderer intends to subcontract to third parties	Text	0.1

Directives reference: § Article 43: Content of reports

3.4 EXTENDING THE IDA E-PROCUREMENT MODEL

1. The easiest way to add extra-information to the messages is to use the free-text attributes provided by the IDA model at different levels:

- At *Document* level (*Document.documentNote*) when one needs to specify information related to the whole *Document*;
- At *Party* level (*Party.partyNote*) when extra-information concerning one of the parties involved is required.

This however presents limitations:

- Free text attributes can contain varied information; thus, automatic processing of their content can barely be envisaged;
- The content of those attributes is unstructured and cannot easily hold structured data.

2. Should you require extra-data that you want to process automatically and/or that can hold structured data, you may extend any of the *complexType*s defined in our model by deriving them⁴.

⁴ An example is given at the following address <http://www.w3.org/TR/xmlschema-0/#DerivExt>.

4 APPENDIX 1: ISSUES AND DECISIONS MADE

This section gives the different issues that arose during the modelling of business documents, together with the associated decision.

The status of an issue can be one of the following:

- *OK*: a decision was taken;
- *Unresolved*: no decision was taken yet;
- *Open*: a decision was taken but we feel that it has almost as many cons as pros.

#	Issue description	Status	Decision
	General		
GEN1	<i>Why not use an existing standard rather than develop a new model?</i>	Open	<p>The main reasons why it was decided to propose a new model are the following:</p> <ul style="list-style-type: none"> • There are numerous existing standards covering the e-ordering and e-invoicing process; but most existing models, such as Rosetta.net and OAGIS are very complex and difficult to implement; • Work was already carried out on the subject by other Member states providing us with a solid base for describing a core set of requirements; • UBL, seen by many as one of the most promising standard in the domain, was in its version 0.7 at the time we started our work. <p>Furthermore, the IDA model could also be considered as the description of a common denominator for the requirements in public e-procurement in Europe. Apart from its XML implementation, it could also:</p> <ul style="list-style-type: none"> • Be used as a common basis for mapping different existing standards, thus facilitating interoperability between them (each particular standard only has to provide a converter to the IDA model rather than to all other standards); • Be seen as a contribution to enrich other existing standards, in particular UBL.
GEN2	<i>Acknowledgment</i>	OK	<p>We consider acknowledgement as an important technical concern that deals with transport layer. Therefore, we did not model this service. However, we strongly believe that it is useful for the whole of the process to be notified while recipients get their messages. This service should be handled by the systems that generate the messages and manage the transactions.</p>

#	Issue description	Status	Decision
	UML modelling		
UM1	<i>Use of inheritance?</i>	OK	Inheritance should be used when the generalisation of two or more subclasses and its parent class appears natural and that it facilitates the comprehension of the model.
UM2	<i>Use of packages?</i> Is it useful to split classes from the information model between packages? What should be the logic of this separation?	OK	We used packages in order to structure the classes constituting our information model and its documentation.
	Business documents content/structure		
BDC1	<i>How could we lower the cost of implementation for SMEs?</i>	1/ OK. 2/ Unresolved yet.	<p>1/ The following rules should tend to reduce the cost of adoption in general:</p> <ul style="list-style-type: none"> • The creation of business documents should not require complex or expensive software; the simplest scenario consisting of the use of a spreadsheet/word processor + a macro should be possible; • The handling of a business document should not require complex and expensive software; business documents should be viewable in an Internet browser⁵; this also explains BDC2; • The transmission of business documents should not require specific software and should be independent from any transport protocol; the simple scenario consisting of using email should be possible. <p>2/ Another possible option is to develop different levels of agreements defining processes and business documents (more or less complex) for each level.</p>
BDC2	<i>Should the IDA e-procurement model should remain simple or should it be as complete as possible?</i>	Open	We opted for a compromise between a simple model and a complete model covering all possible cases, i.e. extensible for big companies and manageable for SMEs.
BDC3	<i>Use XHTML as a structured text type?</i>	OK	<p>For the time being, we made the decision not to:</p> <ul style="list-style-type: none"> • Although generating XHTML text can be relatively easy (one can always generate plain text or simply a series of paragraphs marked by <code>p</code> elements), receiving and handling information that might be structured with XHTML is significantly more difficult.
BDC4	<i>Use of UBL core components/representation terms?</i>	Open	We have decided to conform when possible some to the Core components data types with the same definition.

⁵ This will necessitate in a second phase to, similarly to UBL and other recent XML-based standards, the development of one or more XSLT stylesheets for each business document type.

#	Issue description	Status	Decision
			Whether the IDA XML schemas will use their XML schemas definition (making our model dependent on theirs) is not decided yet.
BDC5	<i>Structured vs. unstructured addresses?</i> UBL defines a very structured address component with many specific fields (floor, room, buildingName, buildingNumber, etc.) whereas Rosettanet and eHandel define an unstructured version of an address composed mainly of Country, ZipCode, PostBox and a series of address lines. In OGC, an address can be either structured or unstructured.	OK	The IDA e-procurement Address component is a happy medium: <ul style="list-style-type: none"> • The great variety of the form an address can take (even within the same country) proves that it is always necessary to have free lines of text (i.e. it is possible not to structure an address by way of a list of specific fields); • Pieces of information might still be processed automatically and are specified as specific fields.
BDC6	<i>Structured person name?</i> Is it necessary to allow for the decomposition of a person's name (forename, middle name, surname, title, etc.).	OK	Although having a structured person name can be a benefit since it allows for more precision, we have not found a real case where distinguishing the different components of a name was a real necessity. Therefore, for the sake of simplicity, a person name in the IDA model is a simple free text attribute.
BDC7	<i>Contract description</i> What attribute should describe contracts in each business document.	Open	We decided not to repeat all the information contained in the Contract notice but only the minimum information to identify a contract: <ul style="list-style-type: none"> • The reference of the contract; • A short description of the contract; • The publication date of the contract; • The publication number of the contract on OJEU; • The Contracting Authority name that has issued the contract; • Type of procedure; • Deadline for tendering to the contract; • Tender document address; • Questions / Answers address; • Framework agreement establishment; • DPS establishment.
BDC8	<i>Should we use the same message for the invitation to tender, invitation to participate in a dialogue and invitation to negotiate?</i>	Open	For simplicity purposes, we decided to use the same message since the structure for the three is similar.
BDC9	<i>Should we describe lots in the Contract class? In the different business document?</i>	Open	We decided to allow specifying the lots (lot number+description) to which the business documents are related. This enables economic operators to indicate the lots they are interested in (and subsequently, for which lots they plan to submit a tender)
BDC10	<i>Should we allow for including time stamp information in all the exchanged messages?</i>	Open	For simplicity purposes, we chose not to include it.
BDC11	<i>Should we design and manage the tender prices as a specific and separate document?</i>	Open	In this version, tender prices are not modelled and should be given as part of a document attached to the <u>Tender</u>

#	Issue description	Status	Decision
			message. In a second version, based on work from other initiatives like UN/CEFACT TBG6, a model for tender prices may be added.
BDC12	<i>On top of the invitation to tender, do we have to send to the short-listed candidates an award result specifying that their request to participate selected?</i>	Open	We considered that having to send two messages to the selected economic operators was not necessary. Thus, economic operators that were not selected will be sent a “negative” <i>AwardResult</i> message; selected ones will receive an <i>InvitationToTender</i> .
BDC13	<i>Do we have to mention the tender opening date time in the different messages and where?</i>	Open	Considering that the opening date is not mentioned in the directives, we chose not to include it.
XML			
XML1	<i>Use of attributes vs. elements</i>	Open	Elements should be the main holders of content. Attributes should be used to hold metadata or characteristics of element content. We think that we should use attributes only for defining data types. In that case, attributes are used as qualifiers (such as <i>currencyCode</i> for data type <i>Amount</i> or <i>unitOfMeasure</i> for data type <i>Quantity</i>).
XML2	<i>Use of namespaces</i>	Open	In order to keep the model simple, only one namespace will be used.
XML3	<i>What extension mechanism should be used?</i>	Open	See the <i>XML schema design guidelines</i> document.
XML4	<i>How should files be attached to messages? Should we allow for inline binary files or just a simple URI?</i> There are many scenarios where attaching a file, either to the business document or a specific line, is a requirement or a real benefit. There is mainly two ways to include binary data in an XML message. The first one is to have inline binary data encoded in base64 in a dedicated XML element. The second one is to specify a URI in the XML document identifying the location of the attached file. In practice this may be a URI pointing to a document located somewhere on the Internet and accessible by a Internet browser. Another common practice is to use MIME as a packaging mechanism to embed in a single message different files.	Open	The first solution which consists in having inline binary data has several drawbacks. First, base64-encoding files makes them one-third larger. Second, this solution may lead to extremely large XML files that will be more time and memory-consuming to process if you just want to interpret the XML content. Again for simplicity purposes, we decided that a URI would be the only attribute of the <i>Attachment</i> object.

5 APPENDIX 2: UML TO XML SCHEMAS CONVERSION RULES

R1/ file and directory structure:

There is one schema file per package except for the Document package where there will be one common schema (document.xsd) and one schema per business document class

There is one directory per package with the same name as the package (document, line, item,...)

R2/ Classes:

For each class that does not correspond to a business document (top-level class) of the information model:

=> a complex type of name: class name + 'Type'

For each class that corresponds to a business document (PurchaseOrder, Invoice, POResponse, etc.):

=> a complex type of name: class name + 'Type' is defined

=> an element with the same name as the class referencing that complexType is also defined

R3/ Associations:

=> When the association is of cardinality 0..1 or 1..1, a specific element is defined with the same name as the target class; the type of this element is the type corresponding to the target class;

=> When the association is of cardinality 0..* or 1..*, a specific repetitive XML element is defined with the same name as the target class; the type of this element is the type corresponding to the target class.

R4/ Attributes:

=> A local element is defined with the same name as the attribute; the XML element type is the class that corresponds to its type as defined in the UML diagram.

R5/ Digital signature:

For the digital signature attached to a business document an optional element conforming to the W3C xml dsig schema was added to the Document class.

6 APPENDIX 3: XML SCHEMAS DESIGN GUIDELINES

6.1 NAMING CONVENTIONS

RNM1. In order to conform to common practice as regards XML schemas, elements names MUST use “upper camel case”: MUST start with a capital. When a name is composed of several words:

- they should not be separated by an underscore (`_`) character;
- each word starts with a capital letter.

In order to conform to ebXML conventions, attribute names should use lower camel case (i.e. start with a lower-case initial).

Example:

```
<ItemDescription versionId='v3'>...</ItemDescription>
```

RNM2. Underscores (`_`), dots (`.`) and dashes (`-`) MUST NOT be used in component names.

6.2 NAMESPACE

RNS1. XML schemas will not use namespaces.

6.3 VERSIONING

RVER1. The version of an XML schema is indicated, in accordance with W3C practice, in the `version` attribute of the `xsd:schema` element.

RVER2. The version MUST not be part of the namespace URI.

6.4 USE OF DATA TYPES DEFINITION

RDT1.

A component MUST be defined as a data type if:

- It can be used in different contexts with different element names or
- It has been or it is foreseen to have other data types derived from it.

In all other cases, a component can be defined as a simple element.

6.5 USE OF ATTRIBUTES

RAT1. Elements should be the main holders of content. Attributes should be used to hold metadata or characteristics of element content.

6.6 MULTILINGUAL CONTENT

Although one should use wherever possible codified values independent from the language, there are many cases where the value of a component is textual. It therefore depends on the language used and can also be given in different languages (for example for textual description of items of a catalogue).

RMC1. Components that can have a textual value SHOULD be characterised by an `xml:lang` attribute.

RMC2. Components that can have a textual value SHOULD, when applicable, be made repetitive (cardinality `0..*` or `1..*`) and hold a language attribute (`xml:lang`) so that its value can be produced in several languages.

Example:

```
<Item>
...
<Description xml:lang="en">Video Camera</Description>
<Description xml:lang="fr">Caméra Vidéo</Description>
<Description xml:lang="es">Viodeocámara</Description>
...
</Item>
```

6.7 EXTENSION MECHANISM

REM1. In order to design extensible components, we suggest using inheritance/specialisation of complexTypes.

6.8 SCHEMA DOCUMENTATION

RSD1. All components should have a corresponding documentation (in English) using the `xsd:annotation` element.

6.9 *elementFormDefault AND attributeFormDefault*

RFD1. `elementFormDefault` MUST be set to `qualified` and `attributeFormDefault` SHOULD be set to `unqualified`.

Example:

```
<xsd:schema
  targetNamespace="http://www.europa.int/IDA/PurchaseOrder"
  xmlns="http://www.europa.int/IDA/PurchaseOrder"
  elementFormDefault="qualified"
  attributeFormDefault="unqualified"
  version="1.0">
```

7 APPENDIX 4: ACRONYMS

Acronym	Description
ASN1	ASN1 is a formal notation used for describing data transmitted by telecommunications protocols, regardless of language implementation and physical representation of these data, whatever the application, whether complex or very simple.
B2B (Business to Business)	B2B designs an ecommerce transaction between two private companies.
CEN (European Committee of Standardization)	The CEN is a European standardisation body contributing to the objectives of the European Union and European Economic Area through the development of voluntary technical standards. (http://www.cenorm.be)
<i>Competitive dialogue</i>	Procedure in which any economic operator may request to participate and whereby the contracting authority conducts a dialogue with the candidates admitted to that procedure, with the aim of developing one or more suitable alternatives capable of meeting its requirements, and on the basis of which the candidates chosen are invited to tender.
<i>Contracting Authority or CA</i>	In the context of public procurement, the public entity establishing a contract related to a specific purchase.
<i>Design contest</i>	Procedure which enables the contracting authority to acquire, mainly in the fields of town and country planning, architecture and engineering or data processing, a plan or design selected by a jury after being put out to competition with or without the award of prizes.
<i>Digital signature</i>	Extra data appended to an electronic document, which identifies and authenticates its sender and ensures the document's integrity.
<i>DPS (Dynamic Purchasing System)</i>	A completely electronic process for making commonly used purchases, the characteristics of which, as generally available on the market, meet the requirements of the contracting authority, which is limited in duration and open throughout its validity to any economic operator which satisfies the selection criteria and has submitted an indicative tender that complies with the specification.
DTD (Document Type Definition)	Specific definition that follows the rules of the Standard Generalized Markup Language (SGML). A DTD is a specification that accompanies a document and identifies what the codes (or mark-ups) are that separate paragraphs, identify topic headings, etc. and how each is to be processed.
<i>EbMS</i>	ebXML Messaging Infrastructure. Messaging framework on which ebXML is based. (http://www.ebxml.org)
<i>EbXML</i>	Electronic Business eXtensible Markup Language (http://www.ebxml.org)
<i>EDIFACT</i>	Electronic Data Interchange for Administration, Commerce and Transport
<i>Economic operator</i>	Covers the concept of supplier. <i>See Supplier.</i>
<i>Electronic auction (or e-auction or reverse auction)</i>	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 the tenders,

	enabling them to be ranked using automatic evaluation methods. Consequently, certain service contracts and certain work contracts having as their subject matter intellectual performances, such as the design of works, may not be the object of electronic auctions.
<i>Encryption</i>	To encrypt a file is to apply a mathematical function that transforms every character in the file into some other character. Encryption renders the file unreadable. This means no one, including you, can read the file until it is decrypted. Only you and the authorized recipients can decrypt the file.
<i>Framework Agreement</i>	Agreement between one or more contracting authorities and one or more economic operators, the purpose of which 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.
HTTP	Hypertext Transfer Protocol used for the Web.
IDA	Interchange of Data between Administrations
ISO	International Organization for Standardization (http://www.iso.ch)
MINDEF	Minister of Defence of France
<i>Negotiated procedure</i>	Procedure whereby the contracting authorities consult the economic operators of their choice and negotiate the terms of contract with one or more of these.
<i>OJEU</i>	Official Journal of the European Union.
<i>OJS</i>	Supplement to the Official Journal.
<i>Open Procedure</i>	Procedure whereby any interested economic operator may submit a tender.
<i>OPOCE</i>	EU Publications Office (Office des Publications Officielles des Communautés Européennes)
PDF	Adobe® Portable Document Format (http://www.adobe.com)
<i>Restrictive Procedure</i>	Procedure in which any economic operator may request to participate and whereby only those economic operators invited by the contracting authority may submit a tender.
RTP	Request To Participate (in a Restricted or Negotiated Procedure or a Competitive Dialogue)
SMEs	Small and Medium Enterprises
SMTP	Simple Mail Transfer Protocol. Standard protocol for delivering emails over the Internet.
SOAP	Simple Object Access Protocol. Protocol allowing transport of XML information on which Web Services are based. (http://www.w3.org/2000/xp/Group/)
<i>Supplier</i>	Any natural or legal person or public entity or group of such persons and/or bodies, which offers on the market, respectively, the execution of works and/or a work, products or services. Also covers the term economic operator.
<i>Time Stamping</i>	Extra data appended to an electronic document that guarantees its existence at a certain date/time and ensures the document's integrity.
UBL	Universal Business Language. Standard library of XML business documents (purchase orders, invoices, etc.) developed by OASIS. (http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ubl)
UML	Standard notation for object-oriented software design.

(Unified Modeling Language http://www.omg.org)	
UN/EDIFACT	United Nations / Electronic Data Interchange for Administration, Commerce and Transport
URI (Unified Resource Identifier)	Way to identify any point of content, whether it be a page of text, a video or sound clip, a still or animated image, or a program.
URL (Uniform Resource Locator)	Most common form of URI (Web page address), which is a particular form or subset of URI called a Uniform Resource Locator (URL).
WG	Work Group
WP	Work package
X12	ANSI standard for the exchange of business transaction information
xCBL	XML Common Business Library. Royalty-free XML-based B2B standard originally developed by <i>Commerce One</i> . (http://www.xcbl.org/)
XML	EXtensible Markup Language. (http://www.w3.org/XML/)
W3C (World Wide Web Consortium)	The World Wide Web Consortium (W3C) develops interoperable technologies (specifications, guidelines, software and tools) to lead the Web to its full potential. (http://www.W3.org)