The electronic records management in Catalonia: the current state of affairs

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The objective of this paper is to discuss the electronic records management in Catalonia, that is; who is responsible for their management, how are they managed and what role do archivists perform in the implementation of systems which make this possible. With this aim, the work is based on the study of experiences in several public institutions and private bodies in Catalonia[1]. In selecting the sample, we have looked at those bodies, which because of their importance or because of the level of interest of their experiences, allow us to understand the state of affairs in Catalonia, both from a point of view of the identification of projects already up and running, and in order to gain an overall vision of the policies and practices observed in the electronic records management .

From the archival point of view we understand the electronic records management as an activity which encompasses the entire life cycle of records: from the design stage of the formats of these records, their creation as authentic, complete and reliable records as testimonies of a specific procedure, to the maintenance of requirements which guarantee their evidential value in the future. For this reason, in the study of each experience special emphasis has been given to fields in which the electronic records management is applied: production of records, administrative management and preservation, with the objective of checking to what extent the criteria and archival methodology has been taken into account throughout the process.

1   Context

The analysis of the context takes as an essential starting point the objectives defined in the documents which represent, at a European level, the conceptual basis of what has been called the Information Society. In this sense, the report by the Vice-president of the European Union, Martin Bangemann, in the 1994 *Cities & Regions info way to Europe*, better known as the Bangemann Report, noted ten key areas of action for its development, which directly or not, involved the electronic circulation of records. The following year, the G7 coined the term *on-line government,* stressing the firm commitment of the public administrations to the Information Society. At a later date, several initiatives have been aimed at promoting the implementation of information and communication technologies in European society, such as for example the e-Europe 2002 Action Plan or the different Framework Programmes.

At the level of the Spanish state, the *Libro Blanco para la mejora de los Servicios Públicos*[2] follows in the same line as the above European reference points. This is supported by the Spanish Plan de Acción INFO XXI[3], equivalent to e-Europe, which has implemented existing projects and developed new ones, such as Ventanilla Única (Single Window)[4], with the interconnection of records registers of the different public administrations, PISTA (Promoción e Identificación de Servicios Emergentes de Telecomunicaciones Avanzadas –Promotion and Identification of Emergent Services for Advanced Technologies)[5], the Portal Único de las Administraciones (Single Portal of the Administrations)[6], CERES[7], aimed at providing certification services from the Fábrica Nacional de Moneda y Timbre, etc.

Localret[8] was founded in Catalonia in 1996 in order to develop the telecommunications networks and the use of information and communication technologies. The consortium is made up of 778 Catalan local councils, bringing together 99% of the population of Catalonia, and the two Catalan municipal authorities: Federació de Municipis de Catalunya and Associació Catalana de Municipis. Localret, together with the Comissionat per a la Societat de la Informació, set up the following year by the Generalitat de Catalunya (Catalan Government), drew up the reference document *Catalunya en Xarxa: Pla estratègic per a la societat de la*

informació (1999-2003 Catalonia on-line: Strategic Plan for the Information Society), which proposes a series of initiatives and actions in six key fields for Catalan society.

Finally, in July 2001 the *Pacte per a la promoció i desenvolupament de la societat de la informació a les administracions públiques catalanes (Pact for the promotion and development of the information society in the Catalan public administrations)*[9] was approved, which lays down the objectives of electronic government in Catalonia for the end of 2003 and proposes coordinated lines of actions. Among the most interesting proposals is the foundation of the Catalan Certification Agency (ACC) and the Portal of the Public Administrations in Catalonia, which incorporates the *Pla d'implantació de serveis públics electrònics*[10]. The first consequence of this has been the constitution of the Consorci Administració Oberta de Catalunya[11], made up of the Generalitat de Catalunya and Localret, aimed at promoting the objectives laid down in the abovementioned *Pacte*, for the implementation of electronic systems which allow services to be offered to Catalan citizens, companies and institutions through the use of information and communication technologies.

At the same time, all of these projects have been accompanied by the legal framework necessary for the regulation of electronic information exchange. Thus, the law dated 30/1992, of the legal system of the public administrations and of common governmental procedures, already considered the use of IT means for keeping records and in governmental procedures, but it was not until 1996 that use of IT and telematic means was regulated in State Government[12], and not until 1999 that the validity of electronic signatures was approved, which is to be modified or replaced in the near future by a new law[13]. Furthermore, the explicit regulation of the system of notifying governmental resolutions did not take place until December 2001[14].

In reference to Catalonia, it is necessary to note, firstly, the regulation approved in 2001 on the relations between citizens and the Generalitat de Catalunya through the use of the Internet, which is first time that governmental procedures can be carried out by telematic means in Catalan autonomous Government[15]; and secondly, the passing in the same year of the new law on archives and records of Catalonia[16], to wit all Catalan public administrations must integrate a records management system in their administrative management. Therefore, it seems to be clear that, as the use of information and communication technologies in the public Administration increases, it will become necessary to integrate the archival criteria of records management within the framework of corporate management. A first indispensable tool in order to achieve this has been the creation of the working group on assessment criteria for electronic records, which answers to the Comissió Nacional d'Avaluació i Tria Documental (CNATD)[17], whose mission is to put forward policy and procedural proposals for the management and conservation of electronic records of the Catalan public administrations.

Analysis and assessment of the use of information and communication technologies

Although all these initiatives affect in one way or another the production of electronic records, the indicators available[18] which enable the correct assessment of the use of information and communication technologies and their application in the management of electronic records are rather deficient or, at the most, only allow the following partial extrapolations:

The studies do not put directly forward uses for applications of electronic records management. Nevertheless, these uses can be deduced through those connected to banking and e-commerce and, also, within the area of the shared management of intranet processes and records.
- 45% of Spanish companies use intranets, and among these, those with more than the 50 employees represent more than 90%.
- 30% of Catalan citizens aged over 15 use the Internet at least once a week. Connection is chiefly made from home (55.9%), but Internet use from their workplace (33.6%) and study centres (21.4%) is also significant.
- In Catalonia, 50% of companies with 10 or more employees have their own web page. 83.8% are connected to the Internet, 82.7% use e-mail and 38.4% have some form of intranet or have a fully-integrated in-house IT management system.

- 62.5% of Internet users in Catalonia visit the web pages of the Public Administration, but only 19.8% have ever carried out any kind of administrative application process. The reason probably lies in the scant presence of on-line application processes available and the lack of security perceived by users.
- 67% of the web sites of the Public Administration offer information on official exams, 63% on subsidies, 34% on procedures and 32% on taxes. In contrast, 90% of the use of CIT within the Administration itself is centred on areas of fiscal management.

As a set of overall conclusions from the studies and reports looked at, the following points can be established:

- Almost all companies are connected to the Internet and use e-mail, while half have their own web page.
- There is still a great deal to be done in e-commerce, particularly because of the lack of confidence in Net security. The number of purchases and sales is low, but payments are even lower.
- The main uses of the Internet are information searches (83%) and data transmission (62%), followed at some distance by financial transactions (41%), the study of the competition (21%) and personnel recruitment (7%).
- The main reason why companies use CITs lies in their competitiveness. 54% consider them as an essential element in competitiveness.
- The Public Administration still uses CIT mainly as a tool to provide information and not as a means of rendering services.

Therefore, the results of the surveys are very positive in terms of equipment and networks but show that the pending question in terms of Net use lies in the development of moves which are more based on the management and exploitation of business, particularly in terms of relations with suppliers and clients, and in the management and provision of on-line services on the part of the Public Administration.

2   Analysis of the electronic records management in Catalonia

In general, it can be said that many Catalan institutions and companies have replaced paper with electronic means in the production of records in some application processes. This replacement has essentially occurred in intermediary administrative processes, that is, in internal processes of the organisations. However, whereas this phenomenon has developed as a logical consequence of the widespread use of information and communication technologies, this has been carried out without the existence of specific projects aimed at the management of electronic records. Despite the existence of future projects which forecast their probable massive use, the projects already developed or under development are based either on general approaches to the overall management of records, or on the computerisation of a management process, which inevitably leads to the production of electronic records. Therefore, it is of no surprise that despite the fact that these projects affect the organisation as a whole, the different bodies are not supported by specific regulations on their management, with the exception, particularly in the private sector, of those requirements included in the administrative management regulations of certain processes and, in a few cases (not applicable to the rest), of recommendations on e-mail management.

In the case of public administrations, this has been the case, despite the participation of the respective archival services in the designing of a significant amount of these projects and, to a lesser extent, of in-house departments. Naturally, and independent of the type of organisation, it is necessary to note the significant specific weight of IT departments and the fact that until recently there were no records management systems defined with archival criteria (or at least in the case of the Catalan public administrations they were not sufficiently established). This has resulted, as a rule, in electronic records management which is precarious and media-driven by very short-term objectives.

In this sense, it can be said that the electronic records management in the Catalan Public

Administration has been conditioned by a clear dissociation between what the adoption of information and communication technologies represents for the production of records, and what is meant by accepting the consequences inherent in their management. It is not necessary to note that the dynamics generated around technological evolution itself has often favoured the setting of political objectives clearly orientated at an immediate result, whose approach has been developed as a result of a media-based focus.

Replacement of paper by electronic format?

As a result of a first assessment, it is necessary to note that while companies have sufficiently decidedly opted for the electronic format, the Administration continues in general to base its management on paper. Evidently, this is a consequence of the administrative concept of what is a record, necessarily linked to the condition of authenticity and to the presence of a certified electronic signature. Nevertheless, in general terms it can be seen that the expansion in the use of e-mail, the complexity of some corporate databases and the development of web-enabled remote procedure tools are all leading to an inevitable change towards new visions of administrative management. In this sense, while office-automation documents are still considered as secondary copies which are always connected to the existence of the original on paper, other types of records in an electronic format can be considered de *facto* as originals.

This is the case of some corporate databases generally associated with the accounts management of any organisation, along with the fiscal obligations of tax-payers, the management of the population census in the case of local Government, and enrolment processes and management of academic reports in the university.

Furthermore, the setting up of on-line application process services both in companies and in the Public Administration involves the acceptance of these records as originals. This statement should be clarified in the case of the Public Administration, as the available operations are limited, in most cases, to obtaining information on the application process and the downloading of forms. In some special cases it is possible to print certificates and carry out the application process when this does not involve a resolution issued by a government body.

Non-text documents produced by an organisation can also be considered as originals, be they in audio, fixed image or image in movement. In the same way, cartographic documents generated directly by means of graphic design tools are also often considered as original records, particularly those intended for support information upon which a geographical information system is based. Generally, these information systems are capable of doing away with a great deal of records on paper, but typically they are only managed from an electronic format. An example of this is the census on homes, buildings and business premises.

Another type of electronic record to be considered here is that obtained through the digitalisation of paper-based records. It is necessary to note that, in general terms, these are not corporate tools, but rather are of a departmental type, and in no case is the record digitised in order to replace the original, but rather just to facilitate circulation and consultation.

It is also necessary to note the fact that some institutions are, at a departmental level, beginning to have web-authoring tools, with the consequent production of electronic records in this format.

Therefore, we are faced with a situation of technology in full swing, in which it can no longer be taken for granted that all records are available on paper. In contrast, a more detailed analysis demonstrates that electronic records coexist with paper in organisations, even in the Administration, and that there is a clear upward trend in this sense. However it is necessary to assess their legal validity and/or their consideration as an archival record.

With respect to the legal validity of this type of records, as has already been mentioned the private sector has more room for manoeuvre through the use of validation tools agreed upon by both parties, either through certified electronic signatures or through any other method of identification, such as for example PINs. In the public sphere, there is also some experience in the distribution of PINs among citizens for the fulfilment of on-line application processes,

although not to any significant extent.

As a general rule, the fact that the Public Administration does not use electronic signatures conditions the validity of any electronic record which it receives or issues. Nevertheless, some administrations can recognise a record's validity only at an internal level. This is the case of e-mail messages connected to internal procedures without a resolution on the part of any government body and, also, of certain corporate databases, cartographic documents and, even, web-enabled application process systems. Therefore, these documents should be considered as archival records, both because of the interest of their contents and because of their condition as originals. In some cases, such as for example certain accounts databases, the condition of being an original is supported by context information which is not registered in the same database, but rather in others related to it, so that together they form an authentic network of interrelated data, which cannot be partially modified.

The information exchanged between different organisations deserves special attention. In this sense, one of the few examples in which telematic transmission takes place under the validation of an electronic signature is in the management of the employment situation for workers with respect to National Social Security. In other exchanges, the transfer of data is generally accompanied by the prior establishment of private protocols between both parties, which is what confers their validity. This is the case, for example, of the standardised transmission of records in the EDI format, widely used in the private sector, and very particularly by banks, where all these procedures are fully regulated in accordance with the requirements laid down by the Spanish Banking Association (AEB). Another example is that of the company Pòrtic, which is in charge of transport management at the port of Barcelona. Here, the company has implemented this format throughout the electronic records management.

However, at present this essential standardisation process is not employed in the data exchanges between the different local administrations and the State Government. Some examples of this include data transmission for the Tax on Economic Activities, the Tax on Real Assets, the Tax on Mechanical Traction Vehicles or the population census. In these cases, and despite the fact that often the format has been regulated by sectors, there is still a lack of overall standardisation which would simplify their management.

Degree of implantation of Records Management Systems

In this paper we refer to Records Management Systems (RMS) in the same sense as that defined by the Law on archives and records of Catalonia: "the set of operations and techniques, integrated in general administrative management, based on the analysis of production, application processing and the values of the records which are intended for planning, control, use, conservation and elimination or the transfer of the records to an archive, with the aim of rationalising and unifying treatment and achieving an efficient and cost-effective management" (Law 10/2001. dated 13th July, on archives and records, art. 2). Therefore, the objective of this section is to analyse to what extent organisations have defined Records Management Systems and to what extent these RMS include the management of electronic records. It is necessary to mention that the final aim is to demonstrate the prior need for a Records Management System so that it may be correctly developed.

In the process of writing this paper we have noted that the implementation of RMS is unequal depending on the sector and, also, depending on its extent. Thus, while in the public administrations analysed, RMS is used in a more or less integrated manner and is computerised to a varying extent, the initiatives in the records management in the private sector stem, above all, from the management of business processes.

A significant number of public institutions have been endowed with the essential tools needed to guarantee a system of this type: classification, description, conservation and destruction systems and regulations on the transfer, destruction and access to the records. Almost all the experiences analysed employ custom-built corporate IT tools mainly centred on the description of the records. Moreover, the majority of analysed systems of the Public Administration, despite being aimed at covering the entire range of records, are not in reality prepared for the use of

electronic records. Despite this, it is necessary to recognise that in some cases work is being carried out on enabling the telematic recovery of electronic records, as is the case of the Parlament de Catalunya.

The private sector in general does not explicitly use this type of tool. In contrast, it employs exemplary regulations on administrative and management procedures, despite the fact that archival criteria have practically never been taken into account in the design of these processes. However, it is necessary to note that the arrival of the electronic records within organisations has demonstrated the need for the use of archival criteria in its management. The fact of also setting quality in internal work as a priority objective, that is, efficacy and efficiency, has in some cases produced results which we could consider as almost equivalent to an Electronic Records Management System (ERMS). In this sense, the use of corporate tools which integrate the management of any type of record throughout all its life cycle is particularly significant in the bank and financial sector, despite the fact that in the case of office-automated records, applications closer to an Electronic Document Management System (EDMS) are used.
In relation to the criteria for the appraisal, selection and destruction of electronic records, the procedures and regulations intended to regulate and document the destruction of records are practically non-existent, with the exception of a few very specific examples. Generally, the criteria applied is conditioned by the capacity of on-line management and off-line storage systems, that is, they combine the application of a short term at a global level with the selective elimination by management units. In order to download information on-line, both the entire conservation of all records and its total destruction is used, along with the combination of both criteria. It should be noted that, in certain cases, the entire conservation involves the transfer of any type of electronic records, be it generated through messenger services, office-automation or through databases. However, in these cases the conservation of records in a web format is excluded.

The responsibility of determining the destruction of the documentation varies according to the type of record. Thus, it can be seen that the responsibility for mail messaging and office-automated records is almost always on the final user or the management unit, generally based on a previously-assigned memory quota. Other types of electronic records are eliminated or conserved by the joint decision of the management unit and IT services, or by the sole decision of the latter. The existence of interdisciplinary teams with the presence of archival services is still uncommon in the Public Administration and non-existent in the private sector.

Preservation and access

The type of electronic records considered as archival records by the majority of organisations analysed here are mainly those contained in databases and cartographic records. The rest, depending on the circumstances, can be considered as such by the full copy system in use, but their "natural" format of conservation is on paper. There are also some examples in which the electronic messenger service is considered and treated as an archival record, such as the cases of the Parlament de Catalunya and the Banc Sabadell. Moreover, some databases and cartographic records could be classed as originals, despite the fact that they are not being archived regularly. It is also necessary to note as a non-existent practice, the consideration of the institutional webs and organisation's management as archival records, although some administrations intend to introduce this.

However, the fact that an electronic record is considered (or not) as an archival record does not imply that it must be classified for permanent conservation. Moreover, in general, the permanent conservation of electronic records is not considered, except in some very specific examples such as the Col·legi Oficial d'Arquitectes de Catalunya, the Universitat Oberta de Catalunya, and the Ajuntament de Girona (Girona Town Council). Evidently, this is particularly serious in those organisations which recognise the existence of electronic records as originals and, therefore, unique. In this sense, the parameters of the temporary conservation of electronic records are between four months and twelve years.

With respect to the storage system, the non-existence (or almost) of large Data Warehouse

systems is clear. The most usual systems involve the transfer of data by full copy to optic and magneto-optic means for permanent or medium-term temporary conservation. With short-term conservation the same systems can be used, though solutions of a more departmental nature, such as CD or DVD, are more common.

In reference to the guarantees of preservation, it is necessary to note the indiscriminate use of re-recordable systems, even for those records which are to be permanently conserved. In general, the downloading of on-line systems and copies responds to security criteria and, above all, to technological obsolescence, be it because of machines, programming or copy accessories, but in no case has data migration to preservation formats been considered. In a very few cases a standardisation of formats has been introduced, such as for example in the Parlament de Catalunya or in the company Pòrtic of the port of Barcelona. Even more exceptional is the agreement reached between the different management units and IT services of an institution in order to allow transferred files to still be readable, as is the case of the Universitat Autònoma de Barcelona.

It is necessary to add that the practice of full copying does not permit the necessary distinction between permanently- and temporary-conserved records and, therefore, despite the fact that these are correctly identified, migration represents a higher and higher cost and, at the same time, a risk for its long-term preservation. In this sense, it is necessary to caution that the availability of storage systems and devices with a surprisingly-growing capacity makes it even more difficult to adopt changes in this respect. It is also interesting to note that no example of the application of quality testing for stored data has been detected and that, according to the information supplied by the different organisations, the losses recorded have been caused by specific problems in the copying system and not because of the volatility of the data.

Furthermore, it is also necessary to consider the aspects linked to the security of records. With respect to physical security, the majority of institutions with a certain degree of organisational complexity outsource the custody of electronic records. In some cases, this type of measure is complemented (in order to achieve an improved security in management data) with the existence of external backup centres, particularly in banking and financial fields. With respect to the security of on-line records, the use of permits and levels of access is normal in all organisations, some of which have explicit regulations on the periodic and systematic change of passwords of each user, such as for example the Ajuntament de Terrassa (Terrassa Town Council).

Obviously, another key matter lies in guaranteeing the criteria of authenticity, reliability and integrity of the records. As a result of the study carried out, no organisation has been identified which has adopted these criteria in data migration. In fact, the authenticity conditions set at the time of the production of records are conditioned by the use of electronic signatures and by the incorporation of metadata of origin. From the data obtained, it can be seen that the use of electronic signatures does not always imply the adoption of security systems in long-term records preservation. Moreover, the registering of more or less standard context data and its upkeep in each of the different migrations can be considered as merely testimonial, being limited to a single organisation out of those analysed as a whole.

3   Conclusions

It is undeniable that the Information and Communication Technologies are firmly rooted in almost all Catalan companies and institutions as they are considered an essential factor of competitiveness for the improvement in the efficiency of administrative management. In consequence, the majority of organisations produce records in an electronic format and a significant proportion of them have set up projects for the e-management of records. Some of these projects were begun in the nineteen-nineties, but the majority of them are still in the study and design stage.

The result of the study shows that there are different levels in the electronic records management. Firstly, in the majority of the cases their management is not considered at a

corporate level, but rather sector-based projects are set up, which do, however, affect key aspects of the economic activity of organisations. Secondly, in the majority of the cases the electronic records management is set up in order to computerise intermediate administrative and commercial procedures. Despite this, some innovative experiences are currently in operation in the private sector where electronic certification is being introduced and where electronic records are considered as originals. Thirdly, all the experiences analysed consider the electronic records management during the stage of administrative procedures and in no cases have strategic policies been defined for the long-term preservation of records. Finally, experiences demonstrate that in the electronic records management, archival methodology has not been taken into account in establishing identification criteria for records and their appraisal and selection, systematic classification, description and long-term preservation policies.

Differences have also been observed between the practices in the Public Administration and those in private companies. In private companies, the electronic records management stems from the implementation of computerised management systems for business processes in order to achieve an improved business efficiency, which inevitably forces them to redesign their Records Management Systems and to establish conservation policies for electronic records. In contrast, in the Public Administration the implementation of electronic records management is slower than in private companies, given that the level of legal exigency is higher. It is for this reason that although it is in the Public Administration where Records Management Systems are most present, it is also in this area where the existence of systems for the electronic records management is lower.

Nevertheless, the general perception is that the electronic records management is inevitable and that it is only a matter of time before their use becomes widespread. Their implementation depends on four key points:

- Promote the innovation and transformation of administrative processes in order to systemise and rationalise the flow of records.
- Real implementation of electronic certification which affords electronic records with legal security in order to guarantee their reliability and authenticity.
- Technological resources in order to guarantee the circulation of records, sufficient memory capacity, management applications and the durability of supports.
- Methodology of records management enabling the identification of electronic records, their appraisal and selection at the time of creation, the establishment of classification systems and conservation policies for formats and supports.

In all the existing and future projects analysed in the writing of this paper, the first three elements have been taken into account, though not the fourth. To this end, it is very important for archivists to be involved in the design of electronic records management systems, allowing us to contribute our knowledge and our methodology, so enabling these projects to be improved in the following areas:

- Identification of electronic records. This is indispensable to delimit the definition criteria of what is a record in the IT field.
- The appraisal of electronic records which should allow the value of records to be determined during the different records management stages.
- The systematic classification of records as a basic tool for the identification and organisation of the institution's records.
- Description systems in order to incorporate in the metadata the description criteria allowing the records to be efficiently recovered at a later date.
- Conservation policies of formats and supports, making it possible to guarantee their long-term preservation.

All of the above should be done in a fully-integrated environment, which means setting up corporate models for the records management, where the decisions cannot be taken partially, but rather by means of commissions made up of the different agents involved and in which the different points of view are equally considered.

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[1]   The institutions and companies analysed, directly or indirectly, are: Aigües de Barcelona, Ajuntament de Barcelona, Ajuntament de Blanes, Ajuntament de Girona, Ajuntament de Terrassa, Banc Sabadell, Caixa d'Estalvis i Pensions de Barcelona, Col·legi Oficial d'Arquitectes de Catalunya, Diputació de Barcelona, Fecsa-Endesa, Generalitat de Catalunya, Parlament de Catalunya, Port de Barcelona (Autoritat Portuària de Barcelona and the company Pòrtic), Universitat Autònoma de Barcelona and Universitat Oberta de Catalunya.

[2]   Available at http://www.map.es/libro/portada.htm

[3]   Information at http://www.infoxxi.es

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4   Information at http://www.igsap.map.es/sgpro/ventanilla/ventunica.htm

5   Information at http://www.setsi.mcyt.es/sat/pista/index.htm

6   Information at http://www.infoxxi.es/ciuda.htm

7   Available at http://www.cert.fnmt.es/

8   Information at http://www.localret.es/

9   Available at http://www.gencat.es/sial/noticies/noti_localret.htm

10 Information at http://www.gencat.es/nova_administracio/egovern/serveis.htm

11 Resolution PRE/606/2002, dated 21st February, which makes explicit the Acord del Govern dated 4th December 2001, on the constitution of the Consorci Administració Oberta Electrònica de Catalunya and the approval of its Statutes.

12 Spanish Reial Decret 263/1996, dated 16 February, which regulates the use of electronic, information technology and telematic techniques on the part of Administració General de l'Estat (Spanish State Government).

13 Spanish Reial Decret-Llei 14/1999, dated 17th September, on electronic signatures. Information on the draft Paper of the new law at http://www.infoxxi.es/dni.htm

14 Catalan Llei 24/2002, dated 27th December, on fiscals, administrative social order measures.

15 Catalan Decret 324/2001, dated 4th December, on the relations between citizens and the Government of the Generalitat de Catalunya through the Internet.

16 Catalan Llei 10 /2001, dated 13th July, on archives and records in Catalonia.

17 Comissió Nacional d'Avaluació i Tria de Documentació, agreement of 22nd June 2001.

18 See the reports and studies in the bibliography at the end of this paper.