

# LEGAL REQUIREMENTS FOR, AND BARRIERS TO EBUSINESS WITHIN THE SINGLE ELECTRONIC EUROPEAN MARKET

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## ABSTRACT

The advancements in Information and Communication Technologies (ICT) has not been fully exploited by the construction industry despite of the great potential they offer particularly in the applications of eBusiness to construction. A major initiative by the European Commission to establish a Single Electronic European Market (SEEM) will provide a platform for such eBusiness on a pan European level. Legal issues represent one of the top concerns for the SEEM, which is high on the agenda of the EU policies and strategies. This paper summaries some of the key research findings of the SEEMseed EU project (Study, Evaluate, and Explore in the Domain of the Single Electronic European Market, URL1) in this area. It does not only present the legal requirements of the SEEM, more importantly, it also reveals the major legal barriers in the EU for the development of pan European eBusiness and information platforms such as the Single European Information Space in the future. The main addressees of the paper are the European Commission policy-makers, eBusiness developers, end users, and general interest groups.

## KEY WORDS

Single Electronic European Market, legal requirements, barriers, SMEs

## INTRODUCTION

In the concept of a Single Electronic European Market – SEEM – an electronic market place exists for all European companies to participate, irrespective of size or locality. This e-market has the appropriate legal aspects and regulations solved, providing a level playing field across the whole of the EU, with no national exclusions or special conditions prevailing. It is affordable to all and provides an electronic work environment in which the numerous, continuously changing networks of companies that create added value products and services are supported by high quality common tools and services for effective eBusiness. As construction companies are a major targeted user group, the SEEM prototype is built based on a construction scenario - waste disposal transportation. Many detailed construction issues are also considered in the development process of the SEEM.

For the SEEM to operate successfully the current legal framework/environment needs to be carefully examined; research is required to identify the key legal issues involved, barriers and recommended solutions. The EC has already invested considerable effort in trying to overcome legal issues in eBusiness; it should be now addressing the practical side of the

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implementation of these solutions, and support more awareness activities and guidelines as well as in which areas EC should provide support to the Member States.

Although a number of research projects have studied the legal issues of eBusiness, the outcomes of such studies are often very limited due to constraints such as the complexity of the legal issues involved in eBusiness or the lack of necessary support from governments or legal experts from different member states. The SEEMseed project (Study, Evaluate, and Explore in the Domain of the Single Electronic European Market, IST-1-502515-STP) provides a unique opportunity to study the legal issues relevant to the development and implementation of the SEEM, and further general eBusiness in the EU. Conclusions and recommendations are made regarding the development of the SEEM in terms of key legal issues, barriers and solutions. Four legal studies have been conducted in this regard:

- 1) The legal requirements analysis for the SEEM, based on the study of the eBusiness lifecycle. This is conducted mainly through a literature review and group discussions.
- 2) A series of interviews about the general legal problems which may inhibit SMEs to wider uptake of ICT capabilities to undertake business transactions in the EU. SMEs are a major targeted group of the SEEM. Addressing the legal and contractual issues and other related aspects – such as trust and confidence and alternative dispute resolution – will provide a user-friendly environment for SMEs which they can confidently use being reassured that there are no uncertainties regarding the legal validity of their business transactions . The interviews revealed some of the essential problems that need to be considered for the development of the SEEM.
- 3) A comprehensive survey conducted by the SEEMseed project regarding the general business issues, policies and regulations, technologies, services, impacts and services associated with the SEEM. The Delphi survey was targeted at potential stakeholders of the SEEM (1400 respondents from seven groups took part in the survey), and covered a wide areas of legal issues relevant to the SEEM .
- 4) Contributions of legal experts from different member states. The outcomes of previous studies were further analysed by legal experts from different member states. Suggestions were made for the effective development of the SEEM. Brainstorming, questionnaires and theoretical studies were adopted.

## **LEGAL REQUIREMENTS FOR THE SEEM**

The legal issues of eMarkets are affected by a number of factors such as service scope, trading content, users, transaction process, and application environment. In the context of the SEEM, the legal issues are analysed through the four stages of eBusiness lifecycle (D2.1).

### **USERS REGISTRATION STAGE**

Many key legal issues are involved and to be addressed in this stage. These issues mainly address the legal/contractual relationships between the SEEM and the users as well as the basic rules of ‘games’ between customers and suppliers. Some of the crucial legal requirements include:

## 1) The Validity of Suppliers/Customers' Information in Registry

Customers will engage the services provided by suppliers based on the information stored in the SEEM. Incorrect or distorted data will therefore seriously impact customers and the SEEM. As a result, the SEEM should provide a mechanism to request users to register with validated information (e.g. name, address, bank account, valid communication approaches, proof documents and legal statement if it is necessary). This is the basis for the SEEM and users to enter into a service contract. To do that, three requirements are essential:

- The SEEM should provide mechanisms to be able to check the key registry information provided by users;
- The SEEM should request suppliers to provide documents to prove the validity of their services published in the SEEM; and
- The SEEM infrastructure should protect the privacy of users' information.

## 2) Service Contract

When a user registers in the SEEM, the SEEM should provide the user with a contractual statement (either in the form of 'Terms and Conditions' or a formal service contract). By agreeing such a contractual statement, the user enters a contract with the SEEM and is legally bound by the contract. Since the SEEM will not be involved in the actual transaction, it has no control over the quality and legality of the items advertised, the truth or accuracy of the listings, the ability of service providers and the real requirements of customers or the actual fulfilment of transactions. Thus, the contract is extremely important for the SEEM to protect itself against any legal actions from users due to the failure of business. To build such a contractual statement, the following issues need to be considered:

- **Common laws:** The SEEM should address the related business laws and Acts essential to the business conducted in it (e.g. Antitrust Acts, jurisdiction, etc.). This will ensure that the users will do business in the SEEM under the controls of common laws.
- **Contractual laws:** The SEEM should specify the business rules between users and the SEEM, and customers and suppliers such as: definitions of services, trade rules, liabilities and obligations, fees and charges, warranty and disclaimer, indemnification, termination, copyright and trademarks, confidentiality, delay or force majeure, disputes, data protection, confidentiality and access right, and fraud protection.

## PARTNER FINDING, DATA SEARCHING AND SERVICE NEGOTIATION

In this stage, suppliers advertise their services; customers search for the services which they need through the SEEM platform. Since most of the potential legal problems between users and the SEEM have been specified in the registration stage, the major legal concerns are the data and information exchanges between customers and suppliers (e.g. enquiry, reply, data store, reminders, and negotiation). The SEEM should provide mechanisms to support authorised information exchange, secured data storage, access rights, confidentiality and message tracking, and users' reports about misrepresentation, fraud, and mis-behaviour. Some of the legal related technical issues include:

- **Digital rights management (DRM):** DRM restricts the use of digital files in order to protect the interests of copyright holders. DRM system in the SEEM should be developed to control file access, altering, sharing, copying, printing, and saving.
- **Virtual identity management (VIM):** VIM allows document validation, in such a way that it is possible to guarantee the author identity of a document. This ensures that no changes have been carried out to the original when they should not have been. A legal statement could be included to protect the authorship of electronic documents.
- **Intellectual property rights (IPR):** Customers and suppliers need to constantly exchange technical information in this stage. Both parties will require assurance that their IPR – inherent in the customer's requirements and the supplier's component technical data respectively – is respected by the other parties. A legal statement on the ownership and licensed use of IPR by the parties for the purposes of fulfilling their obligations should be defined in the contract.

### CONTRACT NEGOTIATION

The SEEM should provide maximum supports to customers and suppliers' contract negotiation. Two major issues need to be addressed:

- **How to integrate the outcomes of service negotiation into the contract:** Prior to entering a contract negotiation, customers and suppliers have negotiated the product, service scope, quality, payment and schedule. The outcomes of negotiation should be integrated into the contract seamlessly. The SEEM should provide such a function.
- **Contract negotiation platform and templates:** The SEEM should provide users with an online contract negotiation platform, similar to the eLEGAL contract editor (Hassan *et al.* 2001) or the e-Hub's online contracting system (Ren *et al.* 2004) The design of the platform is highly related to the service content and users. The following requirements might be necessary:
  - Contract negotiation process guiding and tracking: The contract negotiation platform should provide a mechanism to guide and track the contract negotiation process (e.g. who proposed, who modified). The aim is to provide users a transparent and traceable contract negotiation environment.
  - Contract template: Many e-markets provide users with various contract templates (or facilitate customers to adopt their own standard contract templates, or recommend them with special contract templates). Such contract templates allow users to understand what need to be defined in the contract.

### SUPPORT DURING CONTRACT EXECUTION PROCESS

Although e-markets could end their roles when contracts are signed between customers and suppliers, many e-markets provide legal and dispute resolution supports to their users during/after the business transaction process. Such supports are considered as an important part of the SEEM services, which may include:

- *Facilitating communication:* The SEEM may facilitate contract-execution related communication between customers and suppliers. It may also play an independent third party's role to record users' communication related to contract execution.
- *Keeping business and contract negotiation records:* The SEEM normally keeps records related to users' business and contract negotiation for a relatively long period (e.g. five years). Users or authorised parties can access these records.
- *Explaining the contract template clauses and conditions provided by the e-market:* The SEEM often needs to explain the contract template clauses and conditions, as requested by users.
- *Recommending legal support or dispute resolution experts:* The SEEM can also provide supports to users by recommending them legal and dispute resolution consultants.

### **INTERVIEWS ABOUT LEGAL PROBLEMS FACING SMES AND EBUSINESS**

A series of interviews with EC officers and relevant experts have been conducted in order to capture representative views regarding the major legal problems facing the SEEM and SMEs in eBusiness (Carter, 2004). Some of the major results are presented below:

- The current policy and legislation were created based on traditional business models, there are still gaps in the EU's policy framework. Nevertheless, the EU's major legal and regulatory frameworks cover the majority of critical eBusiness interests.
- Rather than developing/driving change through EU Directives, there is an urgent need to work more closely with Member States to facilitate the implementation. Slow EU policy implementation by Member States is a serious problem for eBusiness. The existing market conditions/operators, technical problems, industry interests, and political agendas (e.g. the recognition of electronic signatures) all contribute to the problems.
- The principal inhibitors are now connected to implementation, business and cultural barriers, mainly in cross-border trading such as jurisdiction and complaining between countries. Lack of trust and confidence due to the above problems are the key problems.
- The significantly different attitudes towards citizen identification between member countries impact the application of the SEEM. Organisations, particularly SMEs, are reluctant to extend business across borders due to the unclear legal issues involved.
- There are no specific provisions for supporting SMEs. Addressing the legal issues and contracting systems such as trust and confidence, alternative dispute resolution and compensation, security and privacy, and certification authorities, will provide a user-friendly environment for SMEs in the SEEM.
- There are some specific legal problems with the development of the SEEM:
  - Individual Level: payment problems and disputes resolution and compensation.
  - Company Level: IPR is a major inhibitor, as everybody is trying to ensure IPR is not lost to the organisation.
  - Country Level: creation of a legal system, and agreement of it by Member States.

## **SURVEY RESULT ANALYSIS**

Based on the interviews, a survey was undertaken to further clarify the legal problems related to the SEEM. Participants were asked to express their opinions on a number of targets (Deliverable D4.4, SEEMseed project). With the large number of participants representing different social groups, their opinion provided a much wider and realistic suggestion on the key legal, regulation and policy issues for the development of the SEEM. Below are the results of some of the key questions. The results are consistent with the EU's previous surveys (URL2).

*1) Harmonised eBusiness processes and laws will form the basis for market rules, business competitiveness and consumer protection*

Ranking the importance as high for long term and moderate for medium term, the respondents are relatively positive to achieve it between 2010-2015. The major barriers for achieving this target are the regulations. The fact that EU policies and regulations have to find consensus on the 25 members and the more sophisticated regulation process is most probably the reason for the shared opinion. In general, in all the issues related to policies and regulations Europe starts from an obvious disadvantage position with respect to US and other countries since those countries have unified regulations. The improvement of regulations and IT standards are ranked as the first two policy actions which EU should focus on.

*2) There will be common regulations regarding DRM and IPR*

Ranking the importance as high for medium and short terms, the respondents are positive to have this target achieved between 2010-2015. The major barriers are the related regulations. Although several European Directives about DRM and IPR have been published, the synthesis of different national regulations and the EU Directives needs to be further studied. If IPR and DRM are not granted and supported by effective, common European laws, the eBusiness transactions will not take place massively in the EU context.

*3) Independent certification agencies will verify and attest the conformance to SEEM related policies and regulations in order to ensure reliability and interoperability*

Ranking the importance as high to moderate, the respondents are rather positive to have this target achieved between 2010-2015. The major barriers are the regulatory and economical problems. This is one of the top concerns and great interests for the trust building in the SEEM. It is recommended to clarify which kind of policies and regulations should be verified to support the independent certification agencies.

*4) Electronic IDs and e-signatures will be harmonised within the EU and sufficiently secure for widespread use*

Ranking the importance as high for medium and short terms, the respondents are very positive to make this target become a reality around 2010. The SEEM encounters regulatory, economical and technological problems in the implementation of electronic IDs and e-signatures, which are significantly important for the SEEM registry. It is a necessary premise to the realization of SEEM that users feel that transactions are safe and the content of the transactions is properly protected. For this reason, on the SEEM policies and regulations area

the importance is given to “the use of harmonised electronic IDs and e-signatures” and the “common regulations for DRM and IPR”. This denotes that the trust and security regulations are felt as crucial for acceptance of SEEM across the EU business transactions. It is clear that enterprises need to have effective common legislation on these issues for them to realise confident transactions on the SEEM framework.

5) *Contracts will be constructed and negotiated automatically based on predefined guidelines and common business processes across member states*

Ranking as important but not crucial in the development of SEEM, the respondents do not bet for an early adoption of predefined contracts in SEEM giving an average time horizon around 2015. This is caused by the detected barrier in regulation allowing common contracts across the EU region. The EU has an evident competitive disadvantage compared to USA or Japan motivated by the different country regulations. The research focus should be on social and legal infrastructure rather than the detailed technology framework.

6) *SEEM Users will solve their disputes through common online conflict resolution services*

Ranking the importance as high, the respondents do not think this target can be achieved before 2015. This is mainly due to the complexity of the conflicts that could arise in the eBusiness and the fact that it is not yet materialised how could such services be used. Regulatory and cultural problems are also the causes contributing to the problems. Two different approaches have been suggested: 1) The SEEM will fully depend on the public online conflict resolution services which could be expected to be mature between 2010-2015. However, it is questionable whether the online resolution services will be effective due to the complexity and inconsistency of legal systems across the member states; 2) The SEEM will have a unique online resolution system or adopt a major well-accepted online resolution system which would be adapted for the SEEM. Further research should be conducted on this aspects.

## INPUT FROM THE LEGAL-IST PROJECT

The legal experts from the LEGAL-IST (EU project IST-2-004252-SSA) project also undertook a specific legal study for the SEEM with a focus on the legal issues in the SEEM registry and repository.

### LEGAL ISSUES IN THE SEEM REGISTRY

| Legal issue      | Discussion  |
|------------------|---|
| Service contract | This is relevant to the selection of the appropriate common laws and contractual laws as defined by Article 2 of Directive 1999/93/EC, and the issues relevant to the selection of contract clauses. Some clauses (e.g. the clauses that exclude liability) allow control over the content of communications and transmissions, that introduce warranty limitations or unilateral rescission of contract according to National legislations, may require an explicit acceptance. The registration system should provide a technical way to achieve that (i.e. to signing contract using the e-signature). |

|                                  |  |
|----------------------------------|--|
| Privacy and personal information | The legal issues in this area are those relevant to compliance with the rules established by Directive 95/46/EC (on the protection of individuals with regard to the processing of personal information and on the free transferring of such data) and by Directive 97/66/EC (concerning the processing of personal information and the protection of privacy in the telecommunications sector).   |
| Service provider                 | Legal issues related to compliance with the rules established by Directive 2000/31/EC, concerning the information that service providers shall render easily, directly and permanently accessible to the recipients of the service and competent authorities (Article 5), the information to be provided in the contract (Article 10), the liability and exemptions from liability for the activities of the information society service provider (Articles 12, 13, 14, 15). |
| Copyright, patent, IPR issues    | The business registry could include information and material covered by the copyright of the registered business entity. In most of the cases, these issues should be covered in the user agreement.   |
| IDM system                       | To choose a valid (law-compliant) IDM (identity management) approach.  |
| Security                         | The legal issues are relevant to the integrity and security of communications (every communications and transmission of personal data should be conducted through a secure channel even it is not involving humans), and therefore the creation of the related security policies.  |

#### LEGAL ISSUES IN THE SEEM REPOSITORY

| Legal issue                   | Discussion  |
|-------------------------------|---|
| Security                      | <p>It is important to have a system that provides users with a safe and secure platform, which includes: payment and receipt of transactions, and integrity and security of communications.</p> <p>According to Directive 95/46/EC,</p> <ol style="list-style-type: none"> <li>1) The data subject (the users of the SEEM) should unambiguously give their consent for the data processing (Art 7);</li> <li>2) The SEEM, or their representative, must provide a data subject from whom data is being collected with all the information as in Art 10; and</li> <li>3) The data subject has the right to access their personal data, to object, on request and free of charge, to the processing of personal data according to Art 12.</li> </ol> <p>All the information about the SEEM and the processor (who processes personal data on behalf of the SEEM) such as: how the data should be collected, and how the access of data should be given in an understandable way to the data subject during the registration phase. The users will accept the processing using an advanced e-signature. The system should always allow users to review the information about the data processing and be able to inform them where their data is stored; this requires that personal data should be traceable at every moment. According to Art 18, the SEEM has the obligation to notify the supervisory authorities of how the personal data will be stored or processed.</p> |
| Copyright, patent, IPR issues | <p>The SEEM repository is a database, and is thus covered by ad-hoc legislation that could give rise to additional legal issues. Some vital questions are:</p> <ul style="list-style-type: none"> <li>• Who owns the database, as a collection of information?</li> <li>• What should be done if someone tries to clone the content of the repository?</li> </ul>   |

## **CONCLUSIONS AND RECOMMENDATIONS**

This paper presented the outcomes of the four studies on legal issues of the SEEM. Three key aspects (i.e. the major legal issues, existing problems and recommendations) are analysed based on the eBusiness lifecycle in the SEEM. eBusiness related laws and regulations have been identified as a major barrier for the development and implementation of the SEEM. Basically, the problems are two layers.

- Firstly, the development of new laws and regulations for eBusiness lags behind the pace of eBusiness. Existing national and European legal systems are built based on traditional social and business models; these need to be tailored to suit the requirements and problems of eBusiness (e.g. privacy and security, copyright & patent, electronic-IDs, digital rights management, knowledge management, etc.). The establishment of new laws and regulations requires a thorough study on the eBusiness problems and requirements. This then further contributes to the delay in the introduction of the new laws and regulations.
- Secondly, lack of harmonisation of laws and regulations within the EU is another major hurdle preventing the effective implementation of the SEEM. One of the major reasons for Europe lagging behind the US and Japan in eBusiness is the fact that EU policies have to find consensus from all 25 members and the more sophisticated regulation process. In general, in all the issues related to policies and regulations, Europe starts from an obvious disadvantage with respect to the US and Japan, since those countries have unified regulations. In some sense, this will be a more difficult problem to solve.

As a result, many specific legal problems affecting the implementation of the SEEM have been identified, for example:

- Regulations related to electronic IDs, e-signatures and user registry information verification are important for the SEEM. It is a necessary prerequisite for users to be confident that customers and providers are identified and accountable for their conduct in the SEEM. However, an electronic ID system at the European level has not been built. This problem will not only affect individual citizens, but also all business organisations;
- Independent certification agencies/authorities are required to verify and attest user registry information to ensure reliability and interoperability. Currently, the relevant policies and regulations are far from mature across the EU due to the regulatory and economic difficulties;
- There is a lack of common regulations regarding DRM and IPR within the EU. The existing regulations are inadequate at both national and EU levels;
- Due to the lack of common contracts or widely accepted contract templates at the EU level, it is difficult to apply auto-contract negotiation based on predefined guidelines and common business processes across Member States;
- A lack of adequate legal support also contributes to many problems in the provision of eServices in the SEEM, such as product traceability services and online translation services which is particularly relevant to the responsibility and liability for Open Source Software;

- The difficulties of solving disputes through online conflict resolution services due to the lack of effective legal support from different member countries. This is regarded as one of the most serious inhibitors for SMEs to enter eBusiness, and so will seriously impact the SEEM;
- Finally, there are no specific provisions for supporting SMEs in eBusiness. Addressing the legal issues and contracting systems will provide a user-friendly environment for SMEs.

It is envisaged that overcoming the legal barriers to the implementation of the SEEM will form a major step towards the uptake of eBusiness by the European industries, particularly the construction industry where legal cases have been reported regarding the online consultant engineering service outsourcing across different member states. This will alleviate any concerns by organisations, particularly SMEs, on the legal validity and potential problems of eBusiness transactions which may lead to costly legal disputes, and hence lead to more confidence in using modern ICTs offered by eBusiness platforms.

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## REFERENCES

- Carter, C. D. (2004). SEEMseed EC Representatives/PO Survey, Summary Report. D1.1: Identification of target issues, individual interlocutors, and design of the analysis. The SEEMseed project deliverables (IST-1-502515-STP).
- D2.1, (2004). Requirements Specification. The SEEMseed project deliverables (IST-1-502515-STP).
- D4.4, (2005). Legal and Trust Issues in the SEEM. The SEEMseed project deliverables (IST-1-502515-STP).
- Hassan, T.M., Carter, C.D., Seddon, C. and Mangini, M. (2001). eLEGAL: Dismantling the Legal Barriers to ICT Uptake in Virtual Enterprises. In the Proceedings of the eBusiness-eWork Conference, Venice, Italy, pp. 602-608 .
- Ren, Z., Hassan, T.M., Anumba, C.J., Augenbroe, G. and Mangini, M. (2004). Electronic Contracting in the e-Engineering Hub. *In the Proceedings of the 5th IFIP Working Conference on Virtual Enterprises (PRO-VE 2004)*, Toulouse, France, pp. 235-244.
- URL1: <http://www.seemseed.net/default.aspx>, last accessed 01/02/2006
- URL2: <http://europa.eu.int/comm/enterprise/ict/policy/b2b-con2003/index.htm>, last accessed 12/2005.