

## **Octane** ***an electronic contracting service for SMEs***

### **The challenge**

For many small businesses the process of negotiating, drawing up and signing contracts with suppliers, customers or collaborators can be a significant component of their costs and, more importantly, a major constraint on how quickly the businesses can respond to commercial opportunities.

[OCTANE](#) has developed a suite of tools that allow small businesses to search for reliable business partners over the Internet and, having selected the most suitable partner for a particular activity, electronically generate, sign and notarise the required contracts. The steps involved in establishing an electronic contract are outlined in Annex 1. The OCTANE tools are:

- a Business Information Service (BIS)
- an Open Contracting Service (OCS)
- an Electronic Notary (e-Notary).

These tools are implemented within a safe infrastructure that uses electronic certificates and signatures..

The services could be used by any business but are principally aimed at SMEs. The benefits offered are:

- support for the selection of partners and the verification of their reliability
- significant reductions in costs and time for negotiating and concluding contracts
- the simplification of contract management.,

A less tangible benefit of electronic contracting could be helping SMEs overcome limitations of geography and scale to establish successful business relationships on an international level.

### **The technical solution**

The OCTANE **Business Information Service** (BIS) helps companies to evaluate potential contractors. It is a customised interface to existing business information providers, namely [ECOFIS](#), [Creditreform](#) and the Chambers of Commerce and Industry (CCIs). These services are based on :

- Official Business Registry
- European Business Register ([EBR](#))
- Further official registries.

and provide reliable information about potential partners almost in real-time. Such information includes:

- addresses
- identification
- evidence of creditworthiness
- further detailed background information of companies.

Such a service would significantly reduce the cost and time of searching for new business partners and should allow companies to consider a much wider range of potential partners. Because the service only makes use of trustworthy providers of company and business information, users can have confidence that the commercial risks of doing business with an unfamiliar partner (perhaps even one from another country) are much the same as those of doing business with a company, with which there is an established relationship. This should increase the willingness of companies to enter new business relationships on a national and international level and hence enhance their competitiveness.

The **Open Contracting Service** is software, which allows organisations to negotiate, sign and execute bilateral or multilateral business contracts in the form of electronic documents. OCS helps to reduce dramatically the time taken up by such activities because the parties do not ever need to meet physically, and the use of electronic signatures, verified by digital certificates, means that no physical documents need to be exchanged at any stage in the process. Standard contract templates designed by lawyers further reduce costs through document re-use.



By embedding the OCS technology into their business environments, companies can also lower the costs of cross-border transactions and participate in virtual organisations.

The **Electronic Notary** is a web application, which acts as trusted third party signing electronic contracts on behalf of a consortium of contracting parties. It does so by verifying the validity of digital signatures associated with XML-based documents, using certificates and Certificate Revocation Lists (CRLs) issued by a recognised Certification Authority. The notary will also verify the authorisation of a 'natural person' to sign on behalf of a company by checking with company registers and other trusted institutions. Once a user has signed a contract, he cannot repudiate it.

The notarisation process starts when someone, with the appropriate authorisation, sends the e-Notary a 'notarisation request' with information about the contract to be notarised. The e-Notary can also be used to inspect already signed contracts - assuming that you have the right to do. There is a powerful authentication procedure to establish a requester's identity before allowing him to read a particular contract.

From a technical point of view, the OCTANE architecture supports all these functions in an integrated, unified way, based on common standards such as ebXML, Java X.509, and in deploying software and Smart-Card-based electronic signatures depending on the level of security needed.

## The results

The OCTANE electronic contracting services were successfully tested in three different business contexts, two of them business to business (B2B) situations and the third a business to administration situation (B2A) involving co-operation between commercial companies and non-profit organisations.

### Planning sector trial

The first of the B2B trials was in the planning sector and was implemented by the OCTANE partner NetUnion with the partner EDIFICE as the principal user. EDIFICE has established a strong 'franchising' contract scheme and a multi-regional network of SME franchisees. These two elements form the basis of a 'Virtual Enterprise', and the OCTANE electronic contracting tools could provide the robust and scalable technology platform needed to realise this vision.

The main focus of the trial was on using the OCS to support contract composition and negotiation. A full analysis of user and workflow requirements was undertaken to provide process-specific refinements for the trial. This included a legal review for the development of standard templates and sector specific workflow procedures. The trial also analysed the platform requirements of the virtual enterprise with the objective of providing a scalable technology road map for using OCS on a sustainable basis. This analysis is relevant to other potential SME user groups.

The trial investigated potential value-added business models. The integration of the Electronic Notary for contract non-repudiation was a first priority. EDIFICE itself provides an important central value-added service by screening the professional and financial qualifications of each potential franchisee. Being accepted as member of the network is therefore a quality of service label. The role of the application provider (NetUnion) as a trusted fourth party (within a closed business network) and its relationship with other business information providers has been in the business model and sustainability investigation.

Feedback from EDIFICE and the regional franchisees of the platform were used to drive standardisation.

### Import-export trial

The second B2B trial involved the OCTANE partner Macrofarma, a Portuguese import-export company that works as an intermediary between local clothing and textile manufacturers and foreign clients (mainly in the EU and US). Traditionally Macrofarma has negotiated orders using phone and fax, with only occasional visits to clients. This is very time consuming and risky, since most of the time there is no legally binding contract - a formal contract would delay the order even more.



In the trial Microfarma began to use electronic contracting with a few of its more established clients in order to determine whether the contracting tools worked properly with such clients and also whether the cost of using electronic contracts could be justified commercially. In the longer term Microfarma would like to use the tools less well-known or even unknown clients. If such clients do not want to use the tools, this suggests that they may not be trustworthy business partners.

In preparing for the trial, a detailed requirements analysis was undertaken to identify what was needed from the solution providers. The tools were then adapted to meet these these requirements and the local technology environment. Following installation, Microfarma and its Portuguese clients were shown how to use the hardware, software and communications components of the contracting service. In the early days of the trial, negotiations had 'live support' from experts on electronic commerce and contract law working for Macrofarma in order to guarantee a smooth learning curve. Later on, Macrofarma concentrated on giving the solution providers feedback on missing features, suggestions and bugs.

### **Apprenticeship trial**

The final trial, the Apprenticeship Trial, involved B2A co-operation between commercial companies and the German Chambers of Commerce and Industry (CCIs) to provide vocational training.

The CCIs approve companies as providers of vocational training. These companies look for and select apprentices to whom they are willing to offer vocational training. A training contract then has to be signed personally by the trainee and an authorised representative of the company.

In the OCTANE trial, apprenticeships were registered electronically in the vocational training register of a CCI using the Internet as a transfer medium. The companies record, sign and submit the training contracts for registering. The CCI then verifies and confirms them before recording them in the (electronic) training register. The aim of the trial was to speed up the process, by eliminating the time taken to transfer physical documents between the various parties. In addition, standardisation of the training contracts and the process of applying for them should reduce the cost of the process.

### **Conclusions**

The IST project OCTANE has developed an innovative concept for electronic contracting, which it has realised in the form of standardised contracting tools for establishing trustworthy business relationships between SMEs. The tools have been successfully adapted for and tested in several realistic business environments.

**Annex: How electronic contracting works**

Suppose two companies want to enter a business relationship. After having registered the company statutes (step 1), one party authorises a proxy by issuing a power-of-attorney credential (POA) which must be registered at the Business Information Service (BIS) (step 2). The OCS co-ordinates the contract nego-tiation process between the two companies, and supports the parties with contract templates and modules for different scenarios (step 3). The final contract is submitted (step 4) and certificate plus POA are verified by the BIS (step 5). The e-notary countersigns and stores the contract document in an electronic archive (step 6).

