

e-Business W@tch 2006 Construction Industry Workshop

Brussels, 30 June 2006

1 Summary

e-Business W@tch is an observatory implemented since late 2001 by the European Commission, DG Enterprise & Industry. Its mission is to monitor the uptake of ICT and e-business in enterprises from different sectors in the EU, and to assess the impact of this development. In 2006, studies by *e-Business W@tch* cover 10 sectors, one of them being the construction industry (CI).

At this workshop, results of the interim sector study on the CI were presented and discussed. Members of the *e-Business W@tch* study team presented their assessment of developments in the following areas:

- Implications of **e-procurement** for the CI: use of e-procurement by companies, implications of public e-procurement for construction firms as tenderers;
- Developments in **3D technology** and their application in the CI;
- The use of **project web tools** in the CI.

The workshop was hosted by the Brussels **Confederation of Construction**.

Following a brief introduction by Mr. Kasper Ovesen (Rambøll Management), Mr. **Georgios Karageorgos** and Mr. **Antonio Paparella** (European Commission, General Directorate Enterprise and Industry) presented the related activities of DG Enterprise and Industry.

Then, Messrs **Kasper Ovesen** and **Anders Pennerup Gantzhorn** of Rambøll Management summarised the main findings of the interim report on e-business in the CI. Invited **discussants**, including Mr. **Jøns Sjøgren** of Boligproducenterne, and Prof. **Arturas Kaklauskas**, Chairman of the Department of Construction Economics and Real Estate, Vilnius, reflected on these findings and provided comments and recommendations for further research. The workshop concluded with a discussion on policy implications arising from ICT and e-business developments.

e-Business W@tch will use feedback received at this workshop (input from presentations and the discussion) for finalising the sector study on the CI, which will be published by the end of 2006.

2 Main study points presented and discussed

2.1 Use of e-procurement in the construction industry

Speaker: Mr. Kasper Ovesen, Manager, Rambøll Management

■ Key developments

e-Procurement can have different functions for private sector companies and the public sector. **Construction companies**, as well as other private sector firms, use e-procurement mostly in order to consolidate their supplier base, and thus, ultimately, to reduce procurement costs. The **public sector**, on the other hand, focuses on earlier stages of the procurement process, i.e. the notification of public tenders online and e-tendering, mainly with a view to increase transparency in public procurement process.

■ Preliminary evidence from the survey

Results of the e-Business Survey 2006 show that about 8% of the European construction enterprises use specific ICT solutions for e-procurement, and approximately 50% place orders online. Of these, however, only 13% place more than half of their procurement orders online. Out of those enterprises that place orders online, only about 10% said that the number of suppliers has decreased due to e-procurement, while 20% said the number has increased (the remainder observing no impact on the number of suppliers). Thus, consolidation effects are not immediately visible from the survey results. However, it should be considered that it is mostly the activities of large construction companies where supplier consolidation has a significant impact on the industry.

Case study: The IBX e-procurement platform. Presented by Mr. Farzin Saber, Professional Services Manager, IBX Denmark

■ The importance of work-flow and change management

Mr. Saber described the IBX approach to e-procurement and highlighted benefits and challenges related to e-procurement in construction enterprises. When introducing e-procurement systems, he recommended that companies should carefully pay attention to organisational change management. Therefore, top management support is vital to the success of e-procurement initiatives.

■ Standards and interoperability

Furthermore, Mr. Saber recommended that the CI should take measures to promote standards and improve the interoperability of ICT applications in this industry. In fact, he said, CI must take a proactive approach in this context, and not wait for public policy initiatives or interventions to get the job done. According to Mr. Saber, the industry is better suited for improving interoperability in those areas where the dominant software applications are more up to date, thus being more flexible and easier to be upgraded in the future.

2.2 New technologies for the construction industry

Speaker: Mr. Anders Pennerup Gantzhorn, Analyst, Rambøll Management

Recent developments in project web and 3D technologies

3D technology is already experiencing a commercial break-through in countries such as the UK and the Nordic states. Other EU regions are expected to follow closely. 3D technology is mainly used on large construction projects by engineering enterprises and architects. The “move” from 2D to 3D work flow processes and working culture, however, is not an easy issue when implementing 3D technology in enterprises.

3D technology has the potential to reduce risk/costs in a construction project in both the design and construction phase. However, the use of 3D technology is often limited to situations where a prime contractor or owner “pushes” for the use of 3D technology. Construction SMEs acting as subcontractors in the construction value chain have little influence on the use of 3D technologies. The introduction of 3D technology and its associated work flow processes are not expected to have a direct impact on the overall structure of the CI.

Project web solutions

Property-based project web solutions are already widespread, but their further uptake is hampered by the variety and complexity of the software behind these solutions. Complex user interfaces of project webs require a level of ICT competency which many construction companies, particularly smaller ones, do not possess.

Moreover, the integration of project web solutions with other systems, e.g. business administration systems such as ERP, is very difficult. Some construction enterprises therefore refuse to use project webs. The motivation of companies to adopt might increase if clear business cases regarding costs and benefits were available, in particular from an SME / subcontractor perspective.

Discussant: Prof. Arturas Kaklauskas, Chairman of the Department of Construction Economics and Real Estate, Vilnius Gediminas Technical University

According to Prof. Kaklauskas, ICT uptake in the Lithuanian CI is still in its infancy but, he argued, it can be expected to catch up with leading countries soon. The overall economic conditions in Lithuania, particularly the low cost of labour, do rather not provide incentives for the introduction of ICT; as a result, ICT are rather inefficiently used. An important trend for the future, however, is seen in e-negotiation tools for a multiple criteria assessment of suppliers.

Prof. Kaklauskas stressed the importance of education and training in promoting ICT use in the CI. As an example, he pointed at a master’s degree programme in his University, which focuses on the construction and real estate industries. Relevant training methods include self-learning, e.g. by participating in programmes of virtual universities.

2.3 Discussion and conclusions: policy implications arising from ICT use and e-business

Case example: the use of standards

The use of IFC standards in the “Byggsøk” project. Presented by Mr. Øivind Rooth, The National Office of Building Technology and Administration, Norway

Mr. Rooth introduced the Norwegian case of “Byggsøk” in connection with the use of IFC standards. He stressed that digital signature was **not** yet applied to “Byggsøk” and highlighted that enterprises must communicate with governments using the same standard. To support the uptake of IFC standards in the CI, he recommended that public authorities apply IFC standards in all relevant aspects of public administration. A national **building register** for building and infrastructure information should be continuously updated and remain free of charge for industry as well as citizens. According to Mr. Rooth, IFC standards will not hamper the uptake of 3D technology in the CI, because such standard can handle requirements for both 2D- and 3D technologies.

ICT skills

Workshop participants expressed different points of view on the topic of ICT skills in the CI, including the role of the public sector as a facilitator in this domain. It was argued that policy interventions regarding ICT skills were **not** needed, because there was a sufficient offer from private companies to cater for this (rather limited) demand.

On the other hand, it was argued that policy could focus on the **analysis** of skills gaps (if any) in the CI. The analysis should determine what type of institutions (i.e. basic education, trade training, adult basic education or alike) should predominantly be activated when addressing possible ICT skills gaps, keeping in mind that any ICT skills initiatives should not result in market distortions.

Awareness

There was broad agreement that awareness initiatives should focus on the promotion of **best practice** examples rather than promoting general "ICT opportunities". Public ICT promotion campaigns, to demonstrate cross-country best practice cases, as well as **peer-to-peer** demonstrations were highlighted as useful and effective vehicles for increasing awareness among CI stakeholders. In this context, peer-to-peer demonstrations could be organised by national as well as European CI associations.

Interoperability/standards

Pre-standard and standardisation initiatives to facilitate e-business are being undertaken at international level (by CEN/ISSS) and at Member State level (for example the Norwegian initiative “Byggsøk”). Participants discussed the relevance of increased

funding for standardisation initiatives in the CI and expressed different opinions on this issue.

On the one hand, it was argued that standardisation activities in relation to increasing interoperability of different systems would take a **long time** and may not yield up-to-date standards when being completed. On the other hand, it was pointed out that **national initiatives** in Denmark, Luxemburg, the Netherlands and Norway have been quite successful in the CI, even though they took a long time (as discussed in the *e-Business W@tch* sector study on the CI of 2005). It was also argued that standardisation efforts should concentrate on basic standard levels, such as a common standard transfer protocol focussing on the transparency of the data transfer between the users of the standard.

3 Further information

Further information, including the agenda and the presentations given at the workshop, are available at the *e-Business W@tch* website (www.ebusiness-watch.org) under 'events'. For further information, questions and input please address either:

European Commission DG Enterprise & Industry Unit D-4 'Technology for Innovation / ICT industries and e-business' Fax: +32-(0)2-296 7019 entr-innov-ict-ebiz@ec.europa.eu	Rambøll Management A/S Nørregade 7A 1165 Copenhagen K, Denmark Fax: (45) 3397 8233 info@r-m.com
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