

## *Seminar Report*

# “SME frustrations using IT: Is standardisation the solution?”

T.M. Egyedi

Delft University of Technology

## Management Summary

On the 25th of October 2002 the seminar *SME frustrations using IT: Is standardisation the solution?* took place at the Delft University of Technology. SME stands for Small- and Medium-sized Enterprises (SMEs), while IT stands for Information Technology (IT), also sometimes referred to as ICT (Information and Communication Technology). The seminar was funded by the European Commission (DG Enterprise) and had the support of the Dutch standards body (Nederlands normalisatie-instituut, NEN). The programme included five lectures and a round-table debate in which seven experts with diverse backgrounds participated. A buffet rounded off the occasion. In all, 21 people attended.

The seminar design (guiding questions, choice of speakers, etc.) was based on the idea that it is often difficult to point out the cause of IT frustration and, therefore, to address them. A seminar is a means to bring together experts who could help analyse the IT problems which SMEs have and examine possible solutions. The focus was to be, in first instance, on interoperability problems, an important category of IT problems and on the solution of standardisation. However, there are several problems and possible solutions. Depending on the circumstances, different mappings of solutions to problems may be best.

As the data presented by the first invited speaker indicates, the attitude of Dutch SMEs towards IT is not very positive. The SMEs are not convinced that ICT use benefits their business, and they have no interest in IT standards. Nonetheless, the Dutch umbrella organisation for SMEs (MKB) turns to ICT to increase the productivity of Dutch SMEs. It has recently formulated ICT policy in which standardisation has high priority.

In the following, the contributions on the themes that were made during the lectures and the debate are summarised. The number refers to the section in which the themes are treated (section 6.1-6.6). These contain a more elaborate discussion and - transcribed and translated - quotes from the speakers.

*(6.1) Should SMEs take standards as a starting point when purchasing IT? Does this preclude problems of incompatibility?*

No conclusive answer was given on the first question. Although the Dutch umbrella organisation for SMEs (MKB) does seem to prioritise (non-proprietary, open) standardisation for the near future, in the round-table debate the obvious attractiveness of ‘off-the-shelf’ *de facto* standard applications for SMEs was also referred to.

Successful standards enhance interoperability (that is, if standards are stable, widely applied and drafted in clear wordings). However, at times standards are only partly implemented, interpreted differently, etc., in which case interoperability may suffer.

*(6.2) Does it make any difference where standards originate, that is, whether they are formal standards like the programming language C and GSM, consortium standards like XML (W3C) and CORBA (OMG) or de facto standards like Java and Microsoft Windows?*

The source of standards is not important. However, the standards process should be an open one; standards should be widely available and accepted. There should be no restrictions on standards use.

*(6.3) Is it useful for an SME to participate in IT-standards processes? Can SMEs influence standards content? Or does the benefit of participation lie elsewhere?*

A distinction should be made between SMEs whose core-business is IT and the majority of SMEs who use IT to support their primary business process. It is worthwhile if a particular standard content is crucial for a company’s product or organisational process. There are several reasons why small- and medium-sized IT companies can benefit from participation (for example, up-to-date knowledge, be part of network of experts, etc.). Furthermore, despite their size, active small IT companies can have a sizable influence on standards content.

As for SMEs whose core-business lies elsewhere, they usually have no interest in and should therefore probably not participate in technology-oriented IT-standardisation (e.g. standards like the basic XML or EDIFACT standards). However, their involvement is crucial for information content-oriented standards (e.g. XML applications, i.e. using XML to model a particular domain). This view is illustrated elaborately in the box ‘What standards SMEs - do not - want to be involved in’.

*(6.4) Are there other solutions for SMEs for solving problems of interoperability? For example, does Open Source Software (OSS) suffer less from incompatibility problems?*

OSS is not the best solution in all circumstances, and it is not the first solution that comes to mind in respect to interoperability problems. Its primary value lies in easing software maintenance, increased supplier-independence, and an open specification development environment.

Is the open source property of software foremost important for SMEs or for small- and medium-sized IT companies? Although in the short term the procurement and operational interests of SMEs and IT providers, respectively, differ, in the long run their interests coincide. SMEs should at least be aware of the significance - positive and negative - of procuring OSS. That is, it is not something, which the consumer can afford to be ignorant about.

(6.5) On the crossroads between standards and open source software (OSS) four areas of interest were identified.

- Circumstances under which OSS offers a solution for the problem of interoperability
- Standardising OSS
- Open source implementations of standards
- Standardised IT-infrastructure as a precondition for the OSS development process

(6.6) A theme that came up during the round-table debate was that *support for SMEs in using standards was important*. The kind of support that was mentioned included

- support for SMEs to implement standards;
- a consultation centre that monitors formal and other ICT standards developments; and
- improved information support on ICT products and services.

Finally, the main seminar question was whether standardisation is the solution to the IT-frustrations of SMEs. Summarising what was said, most speakers confirmed the relevance of standards, one of which emphasised that standards are a precondition for solving many IT problems. Other discussion indicate that, where standards are regarded as valuable, attention should be paid to support during standards implementation; uniform and consistent implementation; and that problems of software maintenance and supplier-dependence may be best addressed by OSS.



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## 1. Introduction

The 25th of October 2002 from 14.00 – 17.00 hours the seminar *SME frustrations using IT: Is standardisation the solution?* took place at the Faculty of Technology Policy and Management (TPM) of the Delft University of Technology, Delft, the Netherlands.

It was funded by the European Commission (DG Enterprise) and had the support of the Dutch standards body (NEN). It focused specifically on the problem of interoperability (technical compatibility) and its solutions (i.e. standardisation and other means).

The audience aimed for were Information Technology (IT)-users in Small- and Medium-sized Enterprises (SMEs). (See annex 3 for the list of participants.) What benefits do standardised IT products have for this group of users? If they participate in IT-standardisation, can they actually influence the standards content? Are there alternatives to IT-standardisation? Is Open Source Software one of them?

This report sketches the (European) setting of the seminar (section 2), explains the view that underlies the seminar design (section 3) and the aims of the seminar (section 4), presents the programme (section 5) and summarizes the outcomes (section 6).

## 2. Background

The European Commission's (DG Enterprise) would like to see more user participation in standardisation and better use of standards. In particular, SMEs in Europe are hardly represented in formal standards processes. The national standards bodies have difficulty in getting these actors interested. Are universities better positioned to forge links between SMEs and the national standards bodies? The Commission has provided a small grant to a consortium of four universities (Technical University of Aachen, Delft University of Technology, University of Edinburgh, Norwegian University of Science and Technology) to experiment with such an intermediary role. The Delft University of Technology has chosen the seminar setting to address the problems of SME IT-users.

## 3. Seminar design

In second instance, SME's can only be sensitive to standardisation issues if it really is an answer to their problems. That is, insight needs to be gained about whether the sort of IT problems, which SMEs have, can indeed be solved by standardisation. This needs to be done before questions of standards use and participation can be raised. That is, a fruitful first step seems to be to help SMEs clarify their problems and explore different solutions. Standardization may or may not present a solution, depending on the problem and on the circumstances. Egyedi illustrates this view with figure 1 of her introductory lecture. See figure 1. It is a way of looking, a conceptual framework, that puts into perspective the standardisation solution. The figure illustrates that each problem may have several solutions, each of which must be judged on its merits (e.g. standardisation as an answer to interoperability problems). Some of the more evident relationships are indicated with straight and dotted lines.

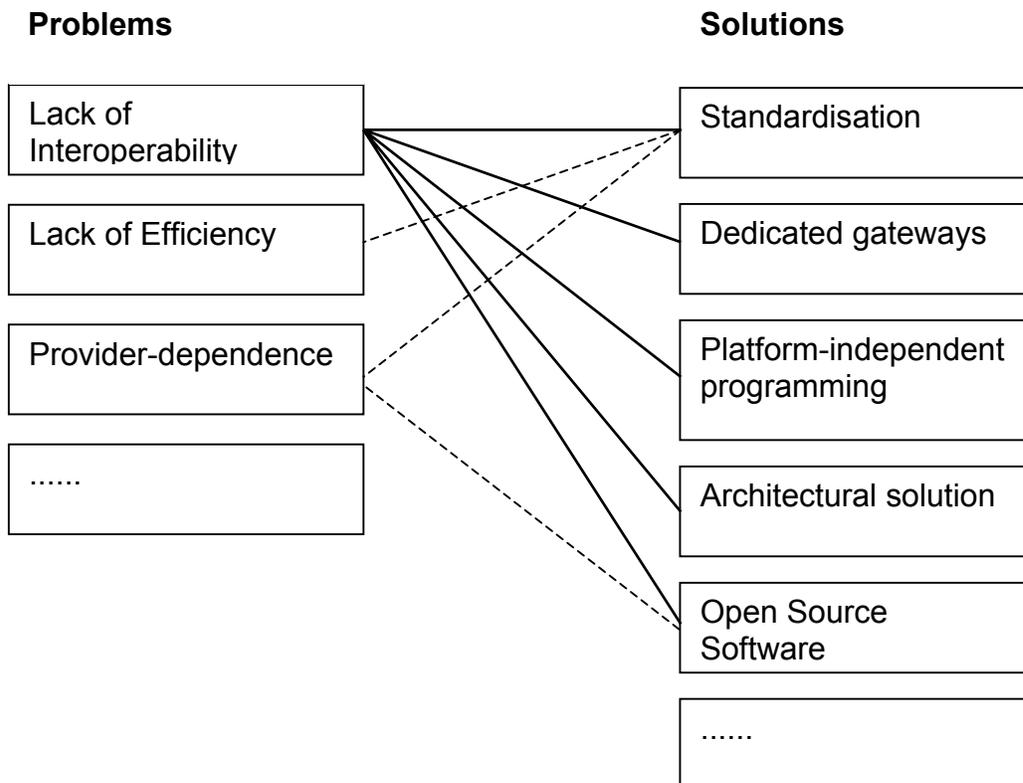


Figure 1: Problems and solutions in IT. (source: Egyedi, 2002<sup>1</sup>)

#### 4. Aim

The aim of the seminar was to assess the importance of SME participation in and use of standards; explore alternatives to standardisation; and disseminate these insights to SME's (e.g. via a website). The leading questions are attached in Annex 2 in Dutch. They are, translated into English,

##### *Standards use*

Should SMEs take standards as a starting point when purchasing IT? Does this preclude problems of incompatibility? Does it make any difference where standards originate, that is, whether they are formal standards like the programming language C and GSM, consortium standards like XML (W3C) and CORBA (OMG) or *de facto* standards like Java and Microsoft Windows?

##### *Participation in the standards process*

Is it useful for an SME to participate in IT-standards processes? Can SMEs influence the standards content? Or does the benefit of participation lie elsewhere?

##### *Alternative solutions*

<sup>1</sup> *Tendrapport Standaardisatie: Oplossingsrichtingen voor problemen van IT-interoperabiliteit*. Ministerie van Verkeer & Waterstaat/ Rijkswaterstaat/ Meetkundige Dienst. Delft, 25 september 2002, p.4)

Are there other solutions for SMEs for solving problems of interoperability? For example, does Open Source Software suffer less from incompatibility problems?

## 5. Programme

The seminar programme was as follows (see annex 1 for the more elaborate seminar announcement in Dutch):

- |                   |  |
|-------------------|--|
| 14.00 - 14.15     | dr. T.M. Egyedi , ‘Introduction’   |
| 14.15 - 14.30     | ir. O. van Megchelen (EAN), ‘IT frustrations of SME’s  |
| 14.30 – 14.50     | drs. W.F. Wakker (ACE), ‘Advantage to and problems encountered by SMEs participating in standardisation’   |
| 14.50 – 15.10     | drs. A.G.A.J. Loeffen (Salience), ‘Use of XML standards’   |
| 15.10 – 15.25     | pause  |
| 15.25 – 15.55     | ir. B.R. Joseph (ConnectUX), ‘Open Source Platform for SMEs’   |
| 15.55 - 16.55     | Round-table debate<br><i>Chair:</i> dr. T.M. Egyedi<br><i>Participants:</i> ir. O. van Megchelen (EAN), drs. W.F. Wakker (ACE), drs. A.G.A.J. Loeffen (Salience), ir. B.R. Joseph (ConnectUX), drs. J.A. Dijkstra (NEN), drs. J. de Jong (ministry of Transport, Public Works and Water Management), and drs. J.W. Stumpel (ministry of Economic Affairs). |
| 16.55– 17.00 uur  | Closing remarks, dr. T.M. Egyedi   |
| 17.00 – 18.00 uur | Buffet for speakers and invited guests   |

## 6. Themes discussed during the seminar

Van Megchelen, the first speaker, refers to a report on ICT use by SMEs, which was issued recently by the Dutch organisation for SMEs (*ICT voor productiviteitssprong in het mkb*, MKB Nederland, 9 September 2002). The report notes that only few SMEs expect to benefit from having introduced ICT in their company (21% of the respondents). Most SMEs expected no gains (42% of the respondents). See Figure 2.

There appears to be a mismatch between ICT providers and SME customers. ICT providers lack understanding of the market, according to half of the respondents. See figure 3. (Only a quarter of the respondents seem to disagree.) Due to this mismatch, many problems arise. However, the SMEs do not feel they have enough expertise to tackle these problems. They mention as one of the most pressing problems the lack of knowledge of and experience with ICT within the company<sup>2</sup>.

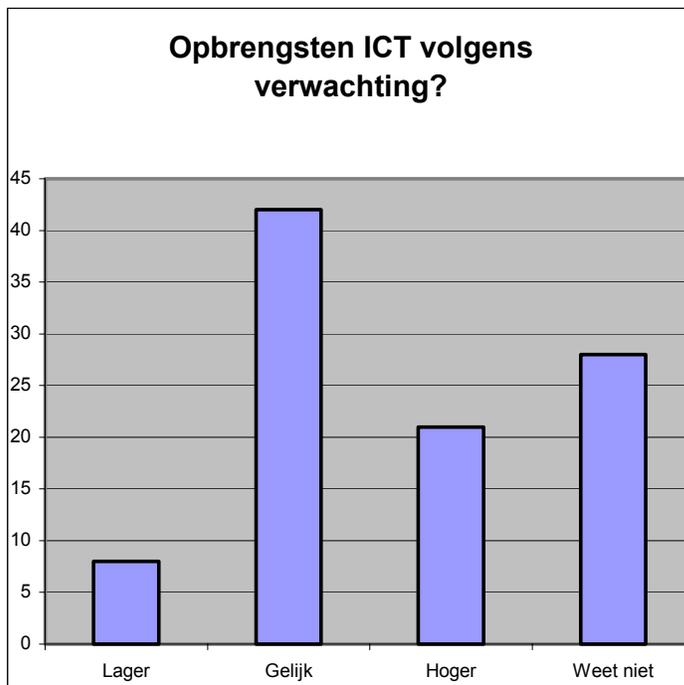


Figure 2: Expected benefit of using ICT: [from left to right] lower, equal, higher, do not know (Source: Van Megchelen/ SME report)

For what type of problem is ICT expertise needed? One category of IT problems is incompatibility (lack of interoperability). Typically, standards are developed to address problems of incompatibility. However, this line of reasoning is not echoed in the attitude of SMEs towards standards. Van Megchelen refers to a research done by CEBIT. One of the research outcomes was, that SMEs feel that they do not need standards. They want

<sup>2</sup> Alas, no further inventory was made of the causes. E.g. to the question of the most pressing problem, lack of interoperability was not listed among the available answers.

affordable working applications, and have never heard of XML or EAN. That is, SME-awareness of standards and their potential beneficial impact is low.

The Dutch umbrella organisation for SMEs (MKB) wants to increase the productivity of Dutch SMEs. It believes that better use of ICT is necessary to achieve the desired goal, and mentions standardisation as a point of priority (listed second in a ten-point action plan)<sup>3</sup>.

More on SME problems with IT are discussed in the following sections. The discussions are treated thematically, namely in the following order:

- the use of standards by SMEs
- participation in the standards process
- the open source solution
- OSS and standards
- support for SMEs in using IT standards and OSS

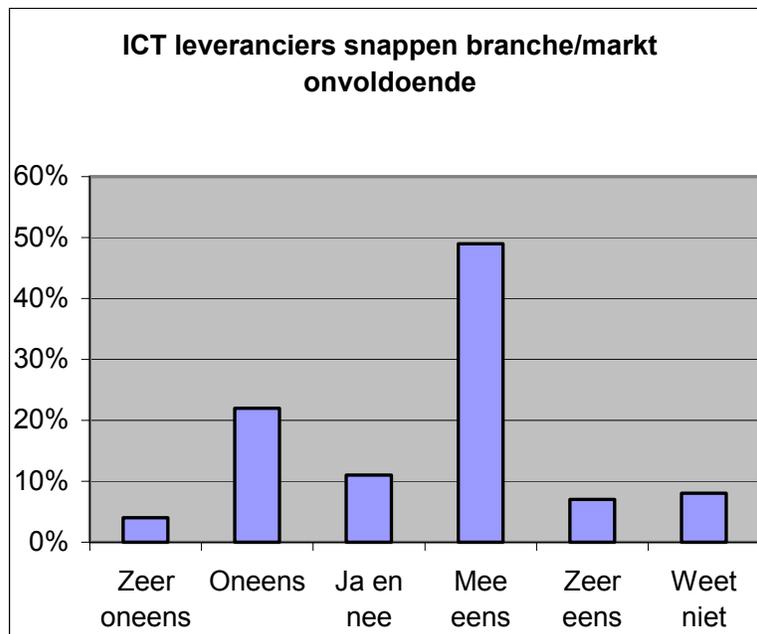


Figure 3: *ICT providers lack understanding of the market* (Source: Van Megchelen/ SME report)

#### *Accountability*

For this report I used my notes, the sheets of three of the speakers and tapes of the round-table debate. However, the latter was not always audible. I have transcribed and

<sup>3</sup> “Voor de middellange termijn -die vandaag begint- gaat het om productiviteitsverhoging. De overheid moet een belangrijke regiefunctie vervullen om de communicatie op ict-gebied tussen bedrijven onderling, maar ook tussen bedrijven en overheid, te vergemakkelijken. Standaardisatie zal de arbeidsproductiviteit in het bedrijfsleven aanzienlijk verhogen.” (‘MKB-Nederland presenteert 10-puntenplan voor het mkb’, 11-06-2002, <http://www.mkb.nl/mkbnederland/berichten/3964.shtml>)

translated the recorded discussion, and, at times, reformulated what was said to increase the readability of the report. That is, please quote with care.

In the extracts of the round-table debate (see boxes) I refer to the speakers and to members of audience by their initials, namely:

Participants round-table debate:

AL: drs. A.G.A.J. Loeffen (Saliency, SME/IT company)

BJ: ir. B.R. Joseph (ConnectTUX, SME/IT company)

JD: drs. J.A. Dijkstra (NEN, Dutch Standards Body)

JJ: drs. J. de Jong (ministry of Traffic and Public Water Works)

JS: drs. J.W. Stumpel (ministry of Economic Affairs)

OM: ir. O. van Megchelen (EAN, SME organisation)

TE: dr. T.M. Egyedi (chair, Delft University of Technology)

WW: drs. W.F. Wakker (ACE, SME/IT company)

RW: prof. R.W. Wagenaar (discussant in the audience)

HS: Hans Steurink, chief editor MediaUpdate (discussant in the audience)



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*From left to right:* prof. R.W. Wagenaar (on the back), dr. T.M. Egyedi (TU Delft), drs. W.F. Wakker (ACE), ir. O. van Megchelen (EAN), drs. J. de Jong (ministry of Transport, Public Works and Water Manag.), drs. J.W. Stumpel (ministry of Economic Affairs), drs. J.A. Dijkstra (NEN), ir. B.R. Joseph (ConnectTUX), and drs. A.G.A.J. Loeffen (Saliency).

## 6.1 Standards use

*Should SMEs take standards as a starting point when purchasing IT? Does this preclude problems of incompatibility?*

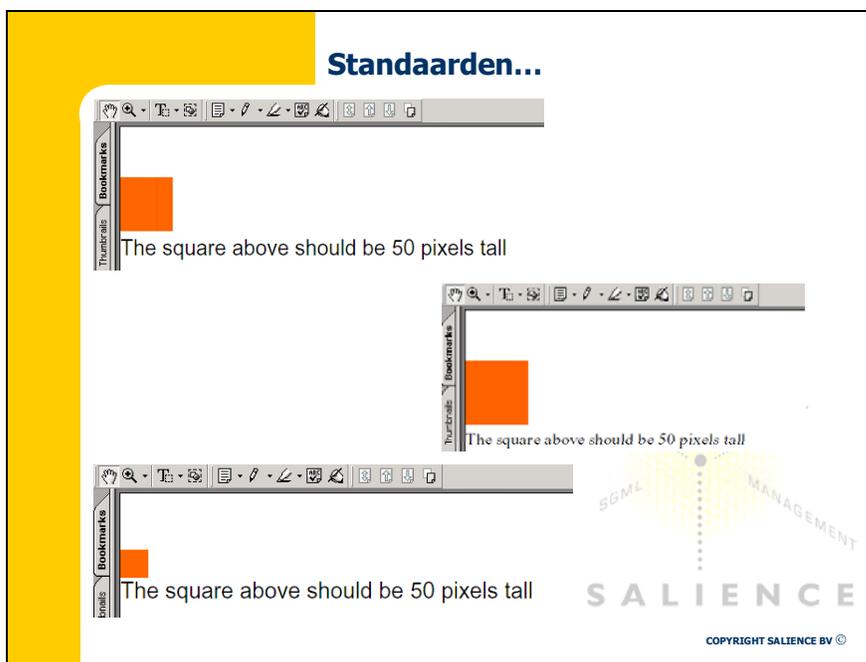
The general emphasis which the Dutch umbrella organisation for SMEs (MKB) places on standardisation suggests an affirmative answer to the first question. However, possibly this view needs to be specified and further thought needs to be given to whether standards are relevant for all ICT products and services and in all circumstances.

In his lecture, Loeffen was asked to focus the above questions on his company's experience. His company, Salienc, is an SME whose core-business is XML (i.e. an ICT-standard for structured data exchange).

There are several generic XML standards. These have largely been developed by technical people. The standards are relatively stable and some of them are widely applied and supported. Roughly half of them can be considered to be complex, and require expert knowledge to understand and implement them. Partly for this reason, some standards are not used at all; some are used only partially (i.e. they are not fully implemented); and some are used wrongly (i.e. in an unintended way).

Typically, three categories of users use these (generic) XML standards to develop XML application standards (i.e. applications of generic XML standards to suit the requirement of specific environments): branches of trade, organisations that operate within the same production chain, and technical experts. There are many XML application standards. Perhaps too many. A large portion thereof is not used, that is, are not implemented in software. Another reason for concern is that the outcome of implementation of the same standard sometimes differs. See figure 4.

Figure 4: Three implementation of the same standard (source: Loeffen)



## 6.2 Choice of standards setting important?

*Does it make any difference where standards originate, that is, whether they are formal standards like the programming language C and GSM, consortium standards like XML (W3C) and CORBA (OMG) or de facto standards like Java and Microsoft Windows?*

The participants to the round-table debate seem to share the opinion that as far as SMEs are concerned it is not important whether useful standards stem from formal standards bodies or from standards consortia. However, they do emphasise that, whatever the source,

- the standards process should be an open one;
- standards should be widely available and widely accepted;
- standards should be fully and unprovisionally open (unrestricted use).

Different standards sources make it more difficult to safeguard against conflicting standards.

The boundaries between the different standards settings are blurring. An example is given of a consortium standard that has been formalised (e.g. IMS was fed by the IMS consortium into IEEE, an organisation that regularly feeds its standards specifications via ANSI to the international formal standards bodies). Another participant refers to the formal mechanisms for feeding consortium standards into formal standardization.

### **Is the type of setting that produces standards important?**

*(extracts from the round-table debate)*

JD: “(...) For SMEs the source of standards may not be that important. However, care should be taken that standards stemming from different sources do not conflict. (...)”

TE: “Willem, your organisation chose the formal route to contribute a new part to the C programming language ....”

WW: “I don’t think our example is generalisable because it’s a rather technical standard. (...) The most important thing is that users clearly define their needs. This should be the starting point of standardization. Whether, consecutively, the standard is then developed in a *de jure* environment or in a widely-supported consortium environment is not that important. The standard should, however, be widely available and the consortium should conduct an open development process in which all those involved can participate. (...)”

JD: “ (...) I think we can conclude that the source does not matter for SMEs (...) provided the standard is widely accepted.”

AL: “ (...) But I do think that the openness of standards, which was mentioned earlier, is not unimportant. In my view one can only call it a standard if it is open (...) and that it is so fully and unprovisionally. [This in reaction to BJ, who mentions a Microsoft project which specifies how Windows works in conjunction with e.g. Linux. But these specifications are released provisionally.] This unprovisional quality is an essential to a serious standard. One should be able to use it unprovisionally, for everyone to benefit from. (...)”

### 6.3 Participate in the standards process?

*Is it useful for an SME to participate in IT-standards processes? Can SMEs influence standards content? Or does the benefit of participation lie elsewhere?*

Several times during the seminar the point was made that we should distinguish between SMEs whose core-business is IT (IT developers and providers) and the majority of SMEs who use IT to support their primary business process (e.g. for administration or process monitoring). The two categories SMEs need to be discussed separately.

Wakker was asked to give us his views on the above questions in a lecture. His own company, Associated Computer Experts (ACE), is an SME (30 people) which develops system software (e.g. operating systems like Unix and Linux, networks, compilers). Wakker participates in international standardisation of the programming language C (ISO/IEC 9899:1999). ACE has worked successfully towards extending the C standard to support Digital Signal Processors. The extension to the standard will be part of ISO TR 18037.

In his lecture, he sums up several reasons for an IT company to participate in standardisation (e.g. someone has to do it, and it comes with a network of technically knowledgeable people). Participants acquire knowledge of what happens (inter)nationally and gain insight in which player does what. Additional benefits are: it is a means to market your organisation, to stay a head of competitors, ... and to influence future standards, apart from the fun and challenge of standards work.

Wakker believes it is worthwhile for a company to participate if a particular standard content is crucial for ones product or organisational process. This is the case, for example, if products need to interface with products of others, or if standards-based certification of products or processes is ones trade.

In sum, if an SME's core-business is – closely tied to- ICT, participation in standardisation can be worthwhile (for several reasons) and have an impact content-wise if one participates actively.

Loeffen distinguishes between those who develop and influence XML standards (fundamental techniques) and those who develop XML applications (using XML to model a particular domain). Individual users or users organised in trade branches, consortia (e.g. ebXML, OASIS), etc. are essential for application development, while software developers play a determinative role in developing basic XML technology and the standards that underpin these.

Van Megchelen takes the argument one step further. (See the next box: *What standards SMEs – do not - want to be involved in.*) In his view the participation of SMEs is crucial for determining the required information format. Without them there the standardised information content has no relevance. This is the level SMEs should be involved in. However, most SMEs will not want to deliberate over what technology is best to represent the required information (e.g. XML or EDIFACT).

In sum, the involvement of users seems to be crucial for information content-oriented standards, but is usually undesirable where technology-oriented standards are concerned.

### **What standards SMEs - do not - want to be involved in**

*(extracts from the round-table debate)*

OM: “EAN cooperates with users on standards. We distinguish two kinds of standards: technical standards (e.g. XML) and conventions about how to deal with technical standards. We address the latter. Together with user organisations we explore what users want to use these barcoding standards for and how to deal with them (functional specifications). (...) We help SMEs to specify their needs, to model processes for which interoperability is required, and to develop agreements. The contribution of these companies should be restricted to what they need and do. The translation of these specs into technical options should be assigned to technical people. (...) We want to separate technology (in the past the edifact translation) as much as possible from the requirements of companies. That is, whether SME or large company, the desire to cooperate in the supply chain or actor network needs to be translated into an information format, which then can be faxed, encoded in XML or EDIFACT, etc. (...)”

JJ: “As has been said before, a standard should meet user needs. In that respect it should be widely supported. Which technology is used to do so, is a different question. Maybe one should separate the two. (...)”

OM: “ (...)If I look at EAN Nederland, again, we develop user agreements. At this moment a Global Standards Management Process, that is, an EAN body with worldwide support, has been initiated. Therein the contribution of users is crucial. Without them we cannot make agreements. Without users such standards become useless - and, because of the many interdependencies, this applies to SMEs as well as large companies.”

TE: “Does the distinction which Willem made earlier between the importance *that* a standard is in place and what the standard looks like apply to the standard you are referring to?”

OM: You can compare it with a chain process. Willem Wakker’s company provides us with the raw material. Next, my organisation helps users translate their way of working into the information format adopted by Willem’s company. However, we only buy his products and adapt to his choice of standards if these have worldwide support. At the moment we are using W3C and ebXML. We are not going to develop anything ourselves at this level. (...) The standards, which EAN Nederland uses for packaging, are UN/ECE standards, EDIFACT standards. We do not develop them. (...)

## 6.4 Other solutions to interoperability: Open Source?

*Are there other solutions for SMEs for solving problems of interoperability? For example, does Open Source Software (OSS) suffer less from incompatibility problems?*

Joseph (see picture), whose company develops open source platforms for SMEs, hesitates to state that that open source is the best solution for SMEs in all circumstances. The various branches of trade to which SMEs belong, are very heterogeneous.

During the debate the point is made that the promise of better interoperability with OSS is not that relevant in respect to the immediate needs of SMEs. In the medium and long run, the main strength of OSS is, according to Joseph,

- the maintainability of software,
- increased supplier-independence, and
- the open specification development environment (i.e. OSS community is accessible for developer questions).

The latter point is of benefit to providers of SME software, for the OSS environment “is not yet mature enough to cater to the needs and accommodate participation from users”.



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Is the open source feature of software foremost important for SMEs or more indirectly for their IT-providers? Based on the round-table debate, although in the short term their

interests may differ - i.e. procurement and operational interests, respectively - in the long run their interests coincide.

### **Open source, important for SMEs or for IT-providers?**

*(extracts from the round-table debate)*

RW: (...) We talk about becoming independent of, for example, Microsoft. You have to have good reasons for that. The independence issue is quite different from the issue of interoperability between suppliers or customers. (...) Tineke, are we going to address the question how effective open source solutions have been until now and whether we should pursue this path?

TE: (...) This is a good opportunity to involve Brian. I would like to focus your [RW's] question a little. As you mention, one can view open source as a solution to supplier dependence. Indeed, this is probably the most important aspect of open source. Brian, is open source also a solution for interoperability problems - because one can create interoperability by adapting the source code?

BJ: My problem with the latter is that adapting source code is not an immediate need of SMEs, needs that I think should be the starting point of our discussion. I think of SMEs as consisting of several branches of trade, each of which needs its own applications. It would be dangerous to state that open source is always the best solution since SMEs are heterogeneous (...)

(...) The strength of open source software is its maintainability rather than the reduction of IT costs. (...) Although Microsoft dominates the overall software market (roughly 85% of the market share), in my experience with branches of trade there are usually three rather equal parties that develop software. (...) However, if a party applies power play to create high supplier dependence, in that case - the maintainability of - open source software offers the ideal way ahead in the heterogeneous market of SMEs.

(...) I regard the open source approach as the natural development environment. It offers ideal means to 'dump' information, to pose questions and get answers, etc. But the open source development is not yet mature enough to cater to the needs and accommodate participation from users. (...) Therefore, I cannot contend that or specify for which branches of trade and category of SMEs it is the ideal solution. However, it does offer great potential."

JS: One could imagine trade-specific open source-solutions, which because of the open source characteristic can more easily be transferred to the needs of another branch of trade. (...)

WW: I don't think it is very important for an SME whether the source is open or not. The SME wants an application that meets its requirements. The problem is, however, that if the SME wants changes it cannot achieve them by going to Redmond (Microsoft) in America. (...) So you need IT companies that can support you. (...)

As an SME you would want to use standard software as much as possible. If you can get this in an open source version this would be a starting point for building applications. So, in that sense I think open source is important for SMEs- not to develop it themselves.

WW: "(...) I think it recommendable that government encourages that SMEs be informed about and be aware of open source software, that they know it's on offer and can be requested. (...). That is primarily SMEs interest in open source."

## 6.5 Cross-relations OSS and standards

During the seminar different kind of cross-relationships between standards and OSS came up. Briefly summarising them:

- **Alternative solutions:** Some problems in IT, such as supplier-dependence and lack of interoperability can under circumstances be addressed by standards as well as by open source software solutions. (source: TE, introductory lecture)

“Many people doing standards research are actually trying to incorporate open source as a sort of standards process, something which I don’t recognise. You can compare the open source development process with a closed source development process. Ultimately it can result in a product with a large market share - it becomes a de facto standard. The same applies to standards (...)” (source: TE, round-table debate)

- **Standardising open source software:** For example, at the operating system level, for example, there are three Linux versions (Red Hat, Debian, United Linux). Standardisation initiatives are taken to solve interoperability problems between them (e.g. the Open Group). (source: TE/BJ/WW, round-table debate)

“This is foremost relevant for IT providers. More relevant for SMEs is that they know that open source solutions exist and what these stand for.” (source: WW, round-table debate)

- **Open source implementations of standards:** The experience of programmers with open source XML-applications is an issue that is addressed at the 2002 annual conference of the Dutch XML users group.

“(…) Is it really open? Someone I just talked to has good experiences with FOP (i.e. downloaded open source software). He made some adjustments because of problems with the software, which was easy, he told me. (...)” (source: AL, round-table debate)

- **Standardised IT-infrastructure for the OSS development process:** AL sees standardisation as a requirement to start an open source trajectory.

“In practice many open source trajectories run on XML and on Java. These two standards are very accessible, open and widely available specifications which pose as if there were no real problems for anyone. Everyone understands XML (...) It is also well documented. (...) This is [openness at; TE] the level of standardisation. But following, one can still do very closed things with open source. (...)” (source: AL, round-table debate)

As a research recommendation, the above themes could be worth exploring further in another setting.

## 6.6 Support for SMEs in using IT standards

A theme that came up during the round-table debate was that support for SMEs in using standards was important. The kind of support that was mentioned (see box), included

- concrete support for SMEs in implementing standards (knowledge support);
- a centre that monitors the wide array of formal and consortium ICT standards and that can be consulted; and
- improved - possibly standardised- information distribution about ICT (product information, manuals, helpdesks, etc.).

### **Support for SME in using standards**

*(extracts from the round-table debate)*

OM: (...) Indeed, a very important but usually neglected aspect of standardisation is company support. For example, the barcode works very well. But before that happened providers came to us to have their barcodes tested. In the beginning 80% of the barcode readings failed. Now 98% is readable [in part because support was provided in implementing the barcode standard]. At stake are very simple things, like using the wrong background colour for the barcode. (...) What users need is quality support and knowledge support regarding standards. (...) Knowledge support should be available as a matter of course.”

HS comments to JD that the Dutch standards body may be operating in a slightly old-fashioned way. “In the current information society interests are less clear, broader, more fluid. Why has the Dutch standards body never taken the initiative to create insight in the problematic aspects of standards and that which is difficult for the SMEs? (...) ICT providers are bad communicators (...). Product information is often unclear, manuals are badly written, and helpdesks are populated with people who are sometimes badly informed. There have been studies, debates, etc. on whether one could arrive at a certain degree of standardisation in this respect. Although formal standardisation is probably not achievable, working at it would be very clarifying for ICT providers (...) as well as for users. It is part of an awareness-raising process. Why has your organisation never pursued this path?”

JD: “But we have, although we certainly have not reached the end of it. Let me explain. NEN covers standardisation of potato starch to you name it. In many areas we have consultancy centres which explain (potential) users of standards what the standards entail and how they should be applied. It is much easier to communicate about these areas of technology and stay of to date of developments than in IT. (...) The biggest problem is (...) that many organisations are developing standards in the field of IT. We can inform parties perfectly about what happens in the formal bodies of ISO, CEN and related new agreements and standards institutions - I’m thinking e.g. of the CEN workshops.

However, this is only covers part of the ICT standards. We are not (yet) equipped to supply information in the way you propose, about the way consortia like W3C and other groups work and their output. We are working at it, but are strongly embedded in the formal structures and still have to find our way in this ever-changing other standards environment.”

## 7. Rounding off

Finally, the main seminar question was whether standardisation is the solution to the IT-frustrations of SMEs. Summarising what was said, most speakers confirmed the relevance of standards, one of which emphasised that standards are a precondition for solving many IT problems. Other discussion indicate that, where standards are regarded as valuable, attention should be paid to support during standards implementation; uniform and consistent implementation; and that problems of software maintenance and supplier-dependence may be best addressed by OSS.





## Annex 1: Seminar Announcement

### **MKB-frustraties bij IT-gebruik: Is standaardisatie de oplossing?**

#### *Seminar*

tijd: vrijdag 25 oktober van 14.00 – 17.00 uur, toegang gratis  
plaats: amfitheater van de faculteit TBM, TU Delft, Jaffalaan 5

*Het seminar wordt georganiseerd voor IT-gebruikers en m.n. voor die in het midden- en kleinbedrijf (MKB). Heeft deze groep gebruikers baat bij het kiezen voor gestandaardiseerde IT-producten? Stel dat zij deelnemen aan het standaardisatieproces, hebben ze dan ook invloed op de totstandkoming van IT-standaarden? Zijn er voor MKB IT-gebruikers alternatieven voor standaardisatie? Is kiezen voor Open Source Software er één van?*

- |               |  |
|---------------|--|
| 14.00 - 14.15 | <i>Inleiding, <b>dr. T.M. Egyedi</b> (TU Delft, senior onderzoeker standaardisatie)</i>  |
| 14.15 - 14.30 | <i>IT-frustraties in het MKB, <b>ir. O. van Megchelen</b> (EAN Nederland: faciliteert bij ontwerpen &amp; implementeren van int. ICT-standaarden (o.a. streepjescode, e-business), directeur marketing &amp; operations, geraadpleegd bij opstelling ICT-nota MKB, deelnemer ICT progr. MKB)</i> |
| 14.30 – 14.50 | <i>Nut van en problemen bij deelname MKB aan internationale standaardisatie, <b>drs. W.F.Wakker</b> (ACE, voorzitter Ned. programmeertalen commissie, deelnemer C-standaardisatie, voorm. voorzitter ISO SGFS)</i>   |
| 14.50 – 15.10 | <i>Gebruik van XML-standaarden, <b>drs. A.G.A.J. Loeffen</b> (Saliency, senior consultant XML, bestuurslid XML gebruikersgroep, voorm. deelnemer SGML- standaardisatie)</i>  |
| 15.10 – 15.25 | <i>pauze</i>   |
| 15.25 – 15.55 | <i>Open Source-platform voor het MKB, <b>ir. B.R. Joseph</b> (ConnectUX, algemeen directeur, projectleider van het door EZ ondersteunde ICT-doorbraakproject Unlock Closed Software; betaalbare software voor het MKB)</i>   |

- 15.55 - 16.55 *Ronde Tafel-debat*, o.l.v. **dr. T.M. Egyedi** m.m.v. **drs. J.A. Dijkstra** (Projectbureaumanager IT-toepassingen bij het Ned. Normalisatie-instituut (NEN), voorm. secretaris van diverse Europese standaardisatiecommissies w.o. streepjescode, vervoerstelematica, e.d.), **drs. J. de Jong** (Rijkswaterstaat, Hoofd Bureau Standaardisatie ICT), **drs. J.W. Stumpel** (ministerie van EZ/ dir. ICT, ICTU programma ‘Open Standaarden en Open Source Software in overheidsautomatisering’), **ir. B.R. Joseph** (ConnectUX), **drs. A.G.A.J. Loeffen** (Salience), **ir. O. van Megchelen**, (EAN), **drs. W.F. Wakker** (ACE)
- 16.55– 17.00 uur Afsluiting, **dr. T.M. Egyedi**
- 17.00 – 18.00 uur Klein buffet voor sprekers en genodigden

## Annex 2: Seminar vragen

### **Invloed op standaardisatieproces**

- Heeft het voor een MKB-er zin om deel te nemen?
- Kan MKB-er de standaard beïnvloeden?
- Of moet het uitoefenen van invloed niet het doel van deelname zijn?

### **Gebruik van standaarden**

- Is het voor het MKB zinvol om zich bij IT-aanschaf te richten op standaarden?
- Verhelpt dat problemen van incompatibiliteit?
- Maakt het uit waar standaarden vandaan komen?

### **Alternatieve oplossingen**

- Zijn er andere oplossingen denkbaar die IT-problemen van MKB kunnen verhelpen?
- Bijvoorbeeld, lijdt Open Source Software minder aan problemen van incompatibiliteit?

## Annex 3: List of Participants

In all, 21 people participated: seven people from IT companies (five from SMEs & two from large IT companies), eight people from academia (mostly from the Delft University of Technology), and six people from - SME, industry, standards or technology-intermediary or governmental agencies.

<b>Name</b>	<b>Company</b>
Baarsma, S.	BAAN
Bakel, Ir. P.W.M. van	ConnecTux
Bregt, A. van	Syntens
Dalen, J. van	Erasmus Universiteit, Faculteit Bedrijfskunde
Dijkstra, J.A.	NEN
Egyedi, T.M.	TU Delft
Jong, J. de	RWS, Bureau Standaardisatie ICT
Joseph, Ir. B.R.	ConnecTux
Kleinveld, J.M.	Auxilium BV/ICT Kring Delft
Lang, N.	Betade/TBM/Tudelft
Linggarjati, I.	ITS/TU Delft
Loeffen, A.	Salience
Lutterveld, K. van	DTO-TU Delft
Megchelen, O. van	EAN Nederland
Moonen, H.	Baan Development/TU Eindhoven
Ouden, P. den	Syntens
Pandiana, Y.	TBM/TU Delft
Rood, H.	TU Delft
Stumpel, J.W.	Min. Van EZ
Wagenaar, R.W.	TU Delft
Wakker, W.	ACE

## Annex 4: Journal article about the seminar

The article below stems from *Normalisatie Nieuws*, 11(12), December 2002, p.3. [*Normalisatie Nieuws* is a magazine of the Dutch standards body (NEN)]

Seminar TU Delft

### **Is standaardisatie de oplossing voor IT-frustraties in het MKB?**

De keuze voor gestandaardiseerde producten kan meehelpen om frustraties rond IT binnen het midden- en kleinbedrijf (MKB) te reduceren. Zo luidde de belangrijkste conclusie van een ronde-tafel-debat ter afsluiting van een seminar van de TU Delft, op 25 oktober jl. Het MKB is in toenemende mate afhankelijk van informatie technologie. De invoering van ICT in het MKB verloopt echter trager dan wenselijk. De TU Delft onderzoekt in opdracht van de Europese Commissie in hoeverre het MKB baat heeft bij ICT-standaarden en 'open source'-oplossingen.

Zouden 'open source' en standaardisatie de implementatie van ICT-oplossingen kunnen vergemakkelijken? En moet het MKB zelf actief participeren in standaardisatie? Een panel, met daarin drs. Jelte Dijkstra van NEN, boog zich na diverse inleidingen over deze vragen. Het panel stelde al snel vast dat de keuze voor gestandaardiseerde ICT-producten voordelen heeft. Heel belangrijk is de keuze uit diverse leveranciers, ook op de langere termijn. Als tweede voordeel noemde het panel de beheerbaarheid. Maar de panelleden waren het er niet over eens in hoeverre dat meteen resulteert in een lagere 'total cost of ownership'. Ook voor de keuze voor 'open source'-producten is de

beheerbaarheid als belangrijk voordeel genoemd.

#### Standaard en open source

Vanuit het publiek reageerde Prof. Wagenaar (TU Delft) dat het opvallend was dat 'open source' vrijwel klakkeloos werd uitgelegd als 'niet-Windows'. Hij pleitte voor een heldere discussie, waarbij ook de begrippen 'standaard' en 'open source' beter werden geschiedden. Helaas ontbrak hiervoor de tijd.

Een van de vragen aan het panel was of het MKB baat zou hebben bij actieve participatie in de diverse standaardisatie-activiteiten. De conclusie was eensluidend: participatie heeft alleen zin als de standaardisatie van toepassing is op

een ICT-product of -dienst van de deelnemende onderneming zelf. De heer Willem Wakker illustreerde dit aan de hand van zijn eigen onderneming, ACE. Dit softwarebedrijf schrijft zijn naamsbekendheid, maar ook zijn kennisnetwerk, voor een belangrijk deel toe aan de deelname in standaardisatie. Voor het MKB als aanbesteder van automatisering heeft deelname in ICT-standaardisatie weinig zin; daarvoor is het vakgebied veelal te specialistisch.

Voor meer informatie: TU Delft, dr. Tineke Egyedi, tel. (015) 2 786 344, e-mail: t.m.egyedi@tbn.tudelft.nl of NEN, drs. Jelte Dijkstra, tel. (015) 2 690 127, e-mail: jelte.dijkstra@nen.nl.