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**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

**Against lock-in: building open ICT systems by making better use of standards in public
procurement**

(Text with EEA relevance)

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COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

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1. INTRODUCTION

Many organisations are 'locked' into their ICT systems because detailed knowledge about how the system works is available only to the provider, so that when they need to buy new components or licences only that provider can deliver. This lack of competition leads to higher prices and some €1.1 billion per year is lost unnecessarily in the public sector alone[1].

Making better use of standards allowing competitors to provide alternative solutions will diminish lock-in and increase competition, thus reducing prices and potentially increasing quality. This is because standards determine the key element of a technology and create a level playing field for all ICT suppliers[2]. More suppliers will be able to submit offers to invitations to tender for standards-based systems, leading to more competition and choice.

The Digital Agenda for Europe[3] identified lock-in as a problem, and its Action 23 committed to providing guidance on the link between ICT standardisation and public procurement to help public authorities use standards to promote efficiency and reduce lock-in. To that end, this Communication is accompanied by a practical guide on how to make better use of standards in procurement, in particular in the public sector.

2. THE PROBLEM OF LOCK-IN WITH ICT SYSTEMS

Public authorities enter into contracts with providers of ICT in order to use an ICT product or service for a certain period of time. 'Lock-in' has happened when the public authority cannot easily change a provider after the expiration of this period of time, because not all essential information about the system is available for efficient takeover by another provider.

A survey[4] carried out in 2011 (2011 Survey) among public procurement officials in the European Union Member States showed that of the 244 procuring authorities surveyed, at

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[1] See section 2 for a justification of this figure.

[2] Ghosh, R.A (2005) 'An economic basis for open standards' FLOSSPOLS project, http://flosspols.org/deliverables/FLOSSPOLS-D04-openstandards-v6.pdf.

[3] Action 23 of the Digital Agenda commits to providing 'guidance on the link between ICT standardisation and public procurement to help public authorities to use standards to promote efficiency and reduce lock-in', COM/2010/0245, available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52010DC0245R(01):EN:NOT. For more on Action 23, see http://ec.europa.eu/digital-agenda/en/pillar-ii-interoperability-standards/action-23-provide-guidance-ict-standardisation-and-public.

[4] http://cordis.europa.eu/fp7/ict/ssai/docs/study-action23/study44-survey1results.pdf.

least 40 % considered that changing their existing ICT solution would be too costly because it would involve changing many other systems that use the data of the system that they would like to change. Of those surveyed, 25 % felt they would not be able to change their ICT solutions for fear that their information would not be transferable.

A 'lock-in' situation will usually imply that procurement documents for the next contract related to the ICT system causing the 'lock-in' will contain references to the brand name of that system. Purchasers must resort to reference to brand names, because the lack of information about the ICT system makes it impossible to describe the system sufficiently precise in any other way.

A number of studies[5] have indeed indicated an extensive use of brand names in procurement documents. The percentage of invitations to tender referring to brand names ranges from 16 % to 36 %, depending on the samples used in the studies. In addition, the majority of the 244 respondents to the 2011 Survey use brand names in invitations to tender, with 23 % either always or often referring to brand names, and just under 40 % only sometimes doing so.

However, under procurement rules of the Union[6], technical specifications shall afford equal access of economic operators to the procurement procedure and not have the effect of creating unjustified obstacles to the opening up of public procurement to competition. References to brand names are allowed only on an exceptional basis, where a sufficiently precise and intelligible description of the subject-matter of the contract using is not possible by other means laid down by Union legislation; such reference shall be accompanied by the words "or equivalent".

The use of brand names in procurement documents will restrict competition to suppliers of that brand and leads to an effective monopoly and its price implications. Furthermore, dependence on a single vendor for an ICT system and its future evolution can lead to problems of business continuity as there is a risk that a vendor can decide to stop supporting the system or certain features of the system. It can also lead to missed opportunities for more innovation and efficiency, particularly when the vendor is not capable of keeping the system future-proof.

Results from a Commission study[7] found that open tendering procedures are very effective in attracting increased numbers of bidders, and that doubling the number of bidders lowered the contract value by around 9 %.

Based on this ratio of increased bidders to reduced costs, and EU ICT public procurement estimated at €78 billion[8], with 16 % of such procurements referring to brand names, public

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[5]   For example, R.A. Ghosh (2005), 'An Economic Basis for Open Standards' Maastricht, FLOSSPOLS project, http://flosspols.org/deliverables/FLOSSPOLS-D04-openstandards-v6.pdf; Paapst, M. 'Affirmative action in procurement for open standards and FLOSS.' *International Free and Open Software Law Review* Vol.2 No 2 pp. 184-185, see http://www.ifosslr.org/ifosslr/article/view/41, Open Forum Europe, (2011); 'OFE Procurement Monitoring Report: EU Member States practice of referring to specific trademarks when procuring for Computer Software Packages and Information Systems between the months of February and April 2010' (May), p 6, see http://www.openforumeurope.org/openprocurement/open-procurement-library/Report_2010.pdf; .

[6]   Directive 2004/18/EC, OJ L 134, 30.4.2004, p. 114–240 .

[7]   'Estimating the Benefits from the Procurement Directives'. http://ec.europa.eu/internal_market/publicprocurement/docs/modernising_rules/estimating-benefits-procurement-directives_en.pdf.

[8]   This is based on a figure for UK government expenditure on IT of €18 billion in 2010 and research that indicates the UK accounts for 23 % of EU public IT expenditure. This was cross-checked against an

authorities are estimated to be spending unnecessarily some €1,1 billion per year[9] as a result of the restricted number of bidders caused by the reference to brand names.

3. ICT SYSTEMS BASED ON STANDARDS VS PROPRIETARY ICT SYSTEMS

Using ICT systems based on standards instead of proprietary technology will help to open up restrictive public procurement practices, because standards make essential knowledge about a system available to anyone, implying that other potential suppliers could maintain or evolve the system under more competitive terms and conditions.

Besides the economic aspects there are other significant advantages for public authorities in switching to standards-based ICT systems, as also recognised in the eGovernment action plan[10].

3.1. Interaction with citizens — efficiency gains and free choice

Since standards consist of specifications that can be known by all interested parties, products and services from different producers can be interoperable, thus making it easier and more efficient to integrate one public system with another for the exchange of data[11]. For example, this will make it possible for citizens to supply data only once to any public administration. When these same data are needed in other situations, they can be automatically retrieved and re-used, making interactions between citizens and public authorities more efficient at local, regional, national and European level. If this same level of interoperability is to be achieved between non-standards-based systems, the cost and complexity will be significantly higher.

Further, if proprietary products rather than standards-based products are used, this may limit access by citizens, who can only interact with public authorities if they have access to and use the same product[12]. If public authorities use standards-based products, citizens can also use another product that implements those standards.

3.2. Interaction with other public authorities

The European Interoperability Framework and the European Interoperability Strategy, explained in the Commission Communication 'Towards interoperability for European public services'[13], depend heavily on the use of standards-based ICT systems. Interoperability is necessary to deliver cross-border eGovernment services that citizens and businesses need

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estimate of €54 billion obtained from the MAPPS database of public sector ICT contracts based on relevant IT CPV codes (which is likely to be an underestimate given the fact that only above-threshold contracts are published in the OJEU, and that not all IT-related procurements are classified under IT CPV codes).

[9] If the number of bidders would double in 16% of the ICT procurements because they no longer refer to brand names (this is the lowest number mentioned in the studies referred to in Footnote 5) this would save 9% of 16% of €78 billion per year, which equals €1,1 billion per year.

[10] COM(2010) 743, available at
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0743:FIN:EN:PDF; see also
http://ec.europa.eu/digital-agenda/node/165.

[11] Ghosh, R.A (2005) 'An economic basis for open standards' FLOSSPOLS project,
http://flosspols.org/deliverables/FLOSSPOLS-D04-openstandards-v6.pdf. Hesser, Czaya and Riemer (2007) 'Development of standards' in W. Hesser (Ed) *Standardisation in Companies and Markets*, pp. 123-169, Hamburg: Helmut Schmidt University.

[12] http://www.epractice.eu/files/European%20Journal%20epractice%20Volume%2012_6.pdf.

[13] COM(2010) 744
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0744:FIN:EN:PDF.

when travelling/working/studying/doing business within the EU, and which underpin one of the objectives of the European digital single market. When public authorities introduce standards-based alternatives it will be easier to develop the necessary cross-border services.

3.3. More innovation

The Directive on the re-use of public sector information[14] obliges Member States, in cases where it is allowed to re-use documents of public sector bodies, to make these documents available through electronic means[15] where possible and appropriate.

These data can include digital maps, meteorological, legal, traffic, financial, economic and other data, and also the Application Programming Interfaces (APIs) of ICT systems. Companies and citizens are then able to use the data and the systems of public authorities to develop new applications that are of use to society at large, help to drive greater growth and jobs, and also contribute to public sector innovation.

If these data is made available in formats that correspond to common standards, it will greatly help application developers to ensure that their applications work with data from many different public authorities and that citizens can use these applications wherever they may be in Europe.

In addition, an ICT system based on standards is easier to evolve and better able to deliver the future services that public authorities are expected to provide to citizens in an efficient and innovative manner. The standards deliver the necessary hooks that anyone with ICT knowledge can use to build add-ons to the system or to migrate data from one system to another, thus increasing the potential for use.

3.4. Lower costs for ICT suppliers

ICT suppliers are also affected by lock-in. The 2011 Survey showed that the majority of ICT suppliers would also be in favour of more open procurement based on standards, as this would open markets to all of them, thus increasing the competitiveness of the EU ICT market. However, it is clear that the sales prospects of certain dominant leading suppliers may be adversely affected if new entrants are able to compete more effectively.

Despite the advantages for the majority of ICT suppliers of using standards-based procurement, they will incur costs to implement and use standards in their products and services. This should be compared to their usual costs for the maintenance and evolution of their products and services. A survey carried out in 2012 among public authorities and ICT suppliers[16] (2012 Survey) suggested that 30 % of stakeholders expect any cost increases to be more significant in the short run (provided public authorities maintain long-term consistency in the standards they apply). However, 41 % of respondents expect that the long-term costs of solutions will decrease, suggesting that ICT suppliers will also benefit in terms of decreased costs and better access to markets.

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[14]   Directive 2003/98/EC, OJ L 345, 31.12.2003, p. 90–96
         and for proposed updates: http://ec.europa.eu/information_society/policy/psi/index_en.htm.
[15]   In its proposal for a Directive amending Directive 2003/98/EC, the Commission has proposed to replace the terms "electronic means" by "in machine readable format and together with their metadata". COM (2011) 877 final.
[16]   http://cordis.europa.eu/fp7/ict/ssai/docs/study-action23/study44-survey2results.pdf.

ICT systems based on standards will enable more interoperability, innovation and competition, lower costs and improve interaction with citizens. They will be the basis for a new generation of open, flexible and collaborative eGovernment services to empower European citizens and businesses, as envisaged in the eGovernment Action Plan 2011-2015.

4. GUIDE FOR THE PROCUREMENT OF STANDARDS-BASED ICT

In theory, it seems simple to obtain ICT systems based on standards in the future. All that needs to be done is to ask for standards when procuring new licences and components. In practice, however, a significant number of procuring authorities responding to the 2011 Survey stated that they had difficulties in using standards when procuring ICT, with just under 50 % citing a lack of expertise to decide which standards are relevant and appropriate for the particular ICT needs. Therefore it is important to help procurers overcome these practical difficulties, so that they can use standards properly.

Currently, some Member States (such as France, Italy, the Netherlands, the UK, Germany, Sweden, Spain and Denmark[17]) are promoting the use of standards in ICT public procurement. They are helping public authorities through practical guidance consisting of lists of recommended standards for specific situations, procurement guides and ready texts to be used in public procurement documents. Despite these best practices, only 25 % of respondents to the 2012 Survey had access to this type of advice, which suggests a need to develop guidance to reach out to more public procurers.

The European Commission has identified the main difficulties public authorities face when procuring ICT systems, and has collected the best practices of some of the Member States that are actively working to overcome these difficulties. These best practices are the basis for the 'Guide for the procurement of standards-based ICT, Elements of Good Practice' (the Guide), which accompanies this Communication.

The Guide consists of:

- Advice to develop an ICT strategy, consisting of main principles to be followed within a country, region or application sector to make ICT systems work together and to provide an efficient service to citizens and other actors who work with public authorities.

- Advice to assess standards in a methodological, fair and transparent manner in order to choose which standards should be used to support the ICT strategy and to avoid lock-in. This is a continuous activity in order to assure that when new and better standards become available they will be used instead of the previously chosen standards.

- Guidance on the best way to identify the ICT needs of a public authority and evaluate potential ICT systems that can meet these needs, including consideration of user requirements.

- Advice on long-term budgetary planning in order to overcome higher up-front costs when trying to eliminate lock-in situations.

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[17]   http://cordis.europa.eu/fp7/ict/ssai/docs/study-action23/d2-finalreport-29feb2012.pdf.

- Advice on how to engage with the market in order for public authorities to understand the current market offer and, conversely, for the market to understand the future needs of the public authorities.

- Advice on how to develop practical, 'ready to use' guidance (list of recommended standards for specific ICT applications, ready texts to use in procurement documents, training) that will help public authorities to write procurement documents that refer to the right standards in the right situation in the right way.

The Guide also provides examples of best practice, and resources for procuring authorities to use in order to implement the advice. The Guide addresses all those who might be involved in the public procurement of ICT, including procurement officials, public-sector chief information officers, and ICT experts providing assistance to public authorities.

The Guide makes it very clear that the issues of resolving lock-in, using standards more and better, and having interoperable systems cannot be solved by individual procurers alone but need to be part of an overall long-term plan at the appropriate sectoral and organisational levels in order to ensure that ICT systems work together in an efficient manner.

5. RELATED INITIATIVES

There are several other initiatives at EU level to promote the use of standards:

- The proposal adopted by the European Commission for a Directive on the accessibility of the websites of public sector bodies[18], where it is foreseen that a harmonised standard will be built upon the work done by the European Standardisation Organisations on the basis of mandate M/376[19].

- The portfolio of eGovernment Large-Scale Pilots carried out under the EU Competitiveness and Innovation Programme in the ICT Policy Support Programme (CIP ICT PSP), in which application-specific standards are recommended, for instance for electronic procurement platforms[20] and eIdentification[21].

- The work of the eInvoicing[22] multi-stakeholder platform in the context of the Single European Payment Area.

- The Common Assessment Method Standards and Specifications (CAMSS)[23], developed under the ISA programme (Interoperability Solutions Programme for European Public Administrations[24]), providing a framework for assessing interoperability standards and specifications, and sharing the results. The Guide promotes the use of CAMMS for the assessment of standards.

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[18] COM(2012) 721, see
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0721:FIN:EN:PDF
and http://ec.europa.eu/digital-agenda/en/news/proposal-directive-european-parliament-and-council-accessibility-public-sector-bodies-websites.
[19] http://www.mandate376.eu/
[20] http://www.peppol.eu/.
[21] https://www.eid-stork.eu/.
[22] http://ec.europa.eu/internal_market/payments/einvoicing/index_en.htm.
[23] https://webgate.ec.europa.eu/fpfis/mwikis/idabc-camss/.
[24] http://ec.europa.eu/isa/index_en.htm.

- Another ISA action, the National Interoperability Framework Observatory (NIFO)[25], provides observations on interoperability activities within Europe. It focuses on analysis of the National Interoperability Frameworks, which can be seen as an important basis for any public organisation's ICT strategy, as advocated by the Guide.

- Furthermore, a recent reform of the European standardisation system[26] now allows contracting authorities to formulate the technical specifications in procurement documents by reference to ICT specifications produced by fora and consortia, which will be identified by the Commission after consultation – notably – of the European Multi-Stakeholder Platform on ICT standardisation, whereas before it was only possible to refer to standards or specifications promulgated by national, European and international standards organisations.

6.   WHAT IF NO STANDARDS ARE AVAILABLE?

For some new types of applications that public organisations need to develop to cope with important societal challenges, such as ensuring high-quality affordable healthcare for an ageing population, combating climate change etc., the necessary standards may not yet be available. In such cases, public authorities could potentially engage with other public procurers in pre-commercial procurement. This means procuring R&D services[27] that enable the public sector to share the risks and benefits of undertaking ground-breaking R&D with industry. It enables procurers to steer industry to respond to their needs, while comparing the pros and cons of competing solutions from different suppliers (through design, prototyping and testing), without committing large deployment contracts to any single supplier. Suppliers can also be requested to take part in the relevant standardisation bodies to establish standards relating to the results of the R&D for the pre-commercial project. The European Cloud Partnership[28] is one example of pre-commercial procurement where standards are being developed.

7.   PROCURING ICT BASED ON STANDARDS: THE WAY FORWARD

The European Commission calls upon all public authorities in the Member States to use the Guide to help alleviate lock-in of their ICT systems, thus encouraging competition in Europe and underpinning the development of the European digital single market, including by ensuring greater access to and use of public data and information. The European Commission will also apply the Guide to make better use of standards in its own ICT systems and calls upon the other European institutions to follow suit.

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[25]   http://ec.europa.eu/isa/actions/04-accompanying-measures/4-2-3action_en.htm.

[26]   Regulation (EU) No 1025/2012, OJ L 316, 14.11.2012, p. 12–33 and http://ec.europa.eu/enterprise/policies/european-standards/standardisation-policy/index_en.htm.

[27]   Pre-commercial procurement is defined in COM/2007/799 and the associated staff working document SEC/2007/1668.

[28]   COM(2012) 0529, p. 13 (key action 3),
http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=EN&type_doc= COMfinal&an_doc=2012&nu_doc=529
and
http://ec.europa.eu/information_society/activities/cloudcomputing/europeancloudpartnership/index_en.htm.

It is expected that over time Member States, along with the European Commission and other European institutions, will develop more specialised versions of the Guide tailored to their own ICT strategies and their use of specific standards. Such an iterative approach is likely to bring increasing benefits in terms of cost savings and further opportunities for innovation and competition.

A consultation on an earlier version of the Guide[29] showed that the sharing of best practice is considered valuable by the majority of respondents, both those who currently have access to sources of best practice and those who do not. Over 90 % of both categories of respondents (or 71 % of the total sample) indicated that the sharing of best practice is or would be useful or very useful.

In order to facilitate the sharing of best practice, the European Commission will support this initiative by organising meetings with relevant stakeholders (public authorities, ICT supply industry, standards organisations and civil society), supported by a public best practice website. By sharing their experience on a regular basis, public organisations will learn from each other, adapt to best practices that emerge, look into common problems and suggest common solutions. This sharing of best practice will ensure that the choices made in different Member States will converge, reducing fragmentation and helping to ensure a real digital single market.

Further, the Commission will report on the outcome of this process, in particular:

- providing relevant information on the ICT procurement processes of public authorities, the assessment of their use of standards in ICT procurement, the development of practical advice, long-term business appraisals, and budgetary planning,

- reviewing the procurement process and reporting on what worked and what could have been done better in order to encourage future best practices.

This information and associated data could be complemented with an overview of statistical data on references to brand names in tenders, the number of suppliers participating in public procurement bids, and assessments of value for money of ICT procurement.

The actions described above will result in more open ICT systems based on standards that should help to develop more efficient public ICT services that can evolve and adapt to future needs. The ICT supply industry will be able to compete to offer value for money to public authorities, and to offer innovative new services.

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[29]   http://cordis.europa.eu/fp7/ict/ssai/docs/study-action23/study44-survey2results.pdf.