



Foreword

STANDARDS NETWORKS

STANDARDS AND INNOVATION

Standards play a crucial role in the definition of market conditions in many industrial sectors and not only in those concerned with high-technology. The use of standards is accelerating technological and organisational change and thus improving innovation performance. Standards are part of the infrastructure that supports efficient innovation processes. They play a major role in promoting innovative products and services, by providing stable references for the development of new innovative solutions and creating large scale markets.

As codified information, standards serve to spread knowledge of the requirements for market acceptability and contain explicit technical information reducing uncertainty and search costs for producers and customers. In addition, non-technological standards help shaping new organisational forms and business models and contribute to raising the quality of services and to the efficiency of business processes.

The mechanism through which standards impact the innovation process is often described as the “path dependency of the innovation process”. In short, when specifications are defined, the options for future technological developments are narrowed down by definition, since alternatives are ruled out by a combination of technical and market choice. This may be considered as detrimental to innovation but at the same time innovation requires some kind of predictability and stability so that innovative solutions can more easily find their way.

The merit of developing standards lies in the possibility of reducing the transaction costs involved in the development and application of (new) technologies and of generating positive network externalities by reaching economies of scale. Standards may, under certain circumstances, also generate negative effects, such as the adoption of sub-optimal technical solutions, the freezing of potential new technological developments or the “stranding” of entire user communities in dead-end products or services. However, innovation does not necessarily favour the “best” technological solutions but those that find strongest support from the market.

There is evidence to suggest that well implemented standards may contribute to the innovation process and therefore to economic growth. The challenge lies in increasing awareness of how standards may be used by economic actors to develop innovative new products and services and more efficient business processes. Such information must be neutral and unbiased in order to be credible. This offers new business opportunities for information services that assess the costs and benefits of standards in a user-friendly manner thus helping clients to take informed decisions on how to use standards in the most innovative way.

Foreword

Introduction

The role of standards in the public procurement process to promote innovation

Legal aspects

Standards for purchasers

The STEPPI steps to finding and using standards

Practical cases

Standards may therefore be considered as a catalyst for innovation. In Europe, large investments are made into the development of standards, offering enterprises potential competitive advantages under the right framework conditions. However, standards in many industrial areas are not sufficiently known or used by product and service developers. In many areas, more than one standard exists for the same purpose which makes it often difficult to decide which the best are.

EUROPE INNOVA AND STANDARDS

To promote the awareness of existing standards and their potential to stimulate innovation, a call for proposals for European projects was launched under the Europe INNOVA initiative in the framework of FP6 with the objective to exchange and compile good practice on how to use standards to develop innovative business solutions, focusing on three key aspects:

1. Facilitating the integration of open standards into the design of new products and services

European standards are widely acknowledged as one of the measures to enhance intra-EU trade and to foster competitiveness. In this respect, the objective was to demonstrate the possibilities to promote the use of existing standards in the design of new products and services by bringing together designers, product developers and consumer associations to identify and test practical approaches to using standards in an innovative manner.

2. Facilitating the integration of open standards into business processes

Non-technological standards play a crucial role for the development of new business practices and services. Examples include, in particular, quality standards and standards defining new business workflows, such as in the area of e-business. From a public policy perspective, a wider use of standards in these fields would help to promote the quality of new business services and to facilitate networking among enterprises, by promoting interoperable business solutions. In this area, the objective was to identify the most promising standards for the development of business practices and services and to develop practical guidance for their implementation at sectoral level.

3. Stimulating innovation through reference to standards in public procurement

Public administrations have a huge impact on the economy in their role of procurers of goods and services. Public tenders and purchases are rather formalized processes, where reference to standards is often made.





Here, the objective was twofold: on the one hand to assess how standards are currently used and referenced in public procurement processes in the EU and, on the other, to improve the way in which existing standards are referenced in European public procurement processes, with a view to helping bidding companies become more innovative in their product and service design and offer.

EUROPE INNOVA STANDARDS NETWORKS

The Europe INNOVA call for proposals resulted in six European standards networks, five addressing the use of open standards in the design of products, services and business processes from a sectoral perspective and one focusing on public procurement as a lever for stimulating innovation:

BIOHEALTH dealt with security issues related to the use of standards for eHealth interoperability and addressing all concerned parties: those working in healthcare as well as patients and citizens; healthcare insurers, governmental bodies and the healthcare industry. It developed relevant information and clear guidelines for eHealth standards users in areas such as identity management, biometrics, ethical applications, etc.

DEPUIS - Design of Environmentally-friendly Products Using Information Standards - aimed at improving the environmentally friendly design of new products and services through the innovative use of new information standards with a view to enabling more companies to use Life Cycle Thinking when assessing the environmental impact of their design of new products.

EUROMIND, in the shipbuilding sector, looked at solutions on how to improve European shipbuilding supply chain collaboration by connecting digital systems via open standards. It identified the most promising open standards and documented their use in horizontal integration (cooperating shipyards) and vertical integration (in the supply chain) in order to address the ever increasing need for cooperation between shipyards, system integrators, equipment manufacturers, electrical engineering companies and other suppliers as well as professional service providers and ship owners.

INNOVAFUN - Applying open standards to INNOVate FURNiture business processes - aimed to build industrial consensus on the innovative funStep standard-based solution, facilitating the integration of open standards in the furniture industry. The funStep standard is acknowledged by many SMEs as a catalyst for the innovation in the sector. Although INNOVAFUN targeted the furniture industry, its results can also be used as a reference in other industrial sectors.

STAND-INN, operating in the construction sector, addressed new manufacturing processes based on the IFC standards with the aim of creating new and more efficient business processes, thus facilitating the construction

- Foreword
- Introduction
- The role of standards in the public procurement process to promote innovation
- Legal aspects
- Standards for purchasers
- The STEPIN steps to finding and using standards
- Practical cases

sector's great potential for cost reduction and productivity increase. STAND-INN has brought together the set of open standards to improve information exchange and interoperability in the building lifecycle and it has identified new standards for sustainable development. This, in turn, should help improve the competitiveness of the building and construction industry.

STEPPIN - Standards in European Public Procurement lead to INnovation - explored how referencing open standards in European public procurement processes could foster innovative business solutions amongst bidding companies and sought to encourage the use of new procedures and methods to stimulate innovation through the application of standards in both the public and private sectors.

KEY LESSONS FROM THE EUROPE INNOVA STANDARDS NETWORKS

The experience of the Europe INNOVA standards networks shows that it remains a key challenge to better use standards for the development and commercialisation of new products and services as well as for organisational innovation which requires strong business support. In many cases, new standards are not ready to be used directly by end-users but require further efforts to integrate them into new or better business solutions.

Evidence from the standards networks also suggests that in many sectors, a wide range of standards co-exist and that it is often hard for SMEs and procurers to decide which the best are. As a result, SMEs and public and private procurers are only exceptionally using standards with a view to bring innovative solutions into markets.

In order to address these challenges, the standards networks have developed a number of tools or materials, which are being presented in this series of handbooks, through which neutral information about the benefits and costs of using standards with a view to helping SMEs and procurers gain easier access to relevant standards in order that they may better accommodate innovative solutions into often complex environments. These services offer specialised information on which standards matter for what, whom and in which context, and they are seen as particularly strong tools to leverage innovation into new markets. It would be desirable if such new information services would be supported, as much as possible, by the national and European Standardisation Organisations with a view to promoting the wider use of standards.

The results of the Europe INNOVA standards networks are very encouraging. Further efforts will therefore be undertaken to facilitate the innovative use of standards, for example in support of the new Lead Market Initiative of the European Commission. Standards experts are invited to actively participate also in the next generation of Europe INNOVA that will follow a more thematic approach and therefore requires close cooperation with other actors that facilitate innovation processes. Standards can make an important difference.





CHAPTER 1: Introduction





1 Introduction

With public procurement representing more than 15% of Gross Domestic Product within the European Union, considerable resources have been channelled into developing public procurement legislation to foster the single market within the European Union. The Lisbon Strategy (2000) aims to make Europe the most competitive and dynamic knowledge based economy in the world by 2010.

There is growing awareness that well designed public procurement strategies, besides streamlining public sector processes and leveraging purchasing prices, plays a crucial role, as a 'pull mechanism', in stimulating innovation-oriented activities by firms in the procurement market. Innovation was confirmed in the review of the Lisbon Strategy as a major driver of economic change. Various studies during the last few years have also shown the benefits of using standards to support innovation. For example, the empirical economics of standards is developed at www.berr.gov.uk/files/file9655.pdf (accessed on 28 July 2008).

Finding the right ways to stimulate innovative solutions in public procurement is a major challenge in our everyday lives. The handbook describes in a user-friendly and pragmatic fashion how to use open standards in competitive tendering to induce suppliers to submit something more than the usual ready-to-use solutions. The content of the handbook provides a set of legally feasible new strategies to better exploit standards in our never ending quest for innovative solutions for public buyers, both within European Union and non European Union countries.

Decentralised market places, private organisations and standards organisations all contribute to the development and diffusion of standards. European public procurers have a major role in supporting standards due to the sheer volume of public tenders in the European Union. In some cases they request the use of specific standards.

The understanding of innovation, being a major driver of economic change, led to the development of a number of initiatives to support the objectives of the Directorate-General for Enterprise and Industry of the European Commission.

The Europe INNOVA Standards Network was established to identify and promote standards that support innovation in Europe. **STEPPIN** - **ST**andards in **E**uropean **P**ublic **P**rocurement leading to **I**Nnovation - is one of the INNOVA standards networks projects on standards and innovation established under the Europe INNOVA banner funded by the Sixth Framework Programme of the European Commission.

STEPPIN looked into how innovation within supplying companies can be stimulated by improving the way in which existing standards are referenced by European public procurers within their documents and processes.

Foreword

Introduction

The role of standards in the public procurement process to promote innovation

Legal aspects

Standards for purchasers

The STEPPIN steps to finding and using standards

Practical cases

This handbook builds on the expertise and research carried out by the fourteen partners of the STEPPIN project, demonstrating how standards can support the development and diffusion of innovative solutions as well as guarantee compatibility, interoperability, safety and quality.

The following definitions were agreed upon among partners in the project in order to have a common base for research; this understanding is also reflected in this handbook.

European public procurer

A European public procurer is any publicly owned organisation in the European Union, either at national, regional or local level, procuring goods, services or works in order to provide public service. This is differently organised in each Member State of the European Union.

Innovation

Innovation is the implementation of a new or significantly improved product (goods or service) or process. It can also be a new marketing method or a new organisational method in business practices. Innovation activities are scientific, technological, organisational, financial and commercial steps which actually, or are intended to, lead to the implementation of innovations. The term 'innovation' is used with reference to the impact on the goods, services or works procured, not covering the procurement process itself.

Standard

A standard is a document established by consensus and approved by a recognised body, providing rules, guidelines or characteristics, for activities or their results, so that an optimum degree of order is achieved.

This definition is based on EN 45020, a European standard developed by CEN, the European Committee for Standardization, where national standards bodies and all relevant stakeholders convene to develop European standards. ISO, the International Standards Organisation defines standard as 'documents established by consensus and approved by a recognised body that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context'.

It has increasingly become good practice for standards to be performance-based, that is, not prescribing certain technology but rather provide details of the performance required. This type of standard leaves it to the market to develop solutions on how to achieve the requested performance, including the technological solution, the processes, the procedures and also the materials to be used.





CHAPTER 2: The Role of Standards in the Public Procurement Process to Promote Innovation





2. The role of standards in the public procurement process to promote innovation

Standards are being used by public procurers. However, STEPPIN carried out research suggesting that public procurers are not typically asked to buy innovation. They are asked to buy a solution to a problem and, therefore, may not immediately see standards as a driver for innovation.

This handbook has been developed to raise awareness to the fact that standards can be used to support innovation in many cases. This is neither to say that using standards always entails innovative solutions, nor that innovative solutions can only be obtained via standards. However, some constellations of standards, particularly performance based standards, can help to stimulate new solutions and diffuse innovations. This handbook will show how to use standards in the most beneficial way, both to streamline the procurement process and to foster innovations.

Promoting innovation by referencing standards should be encouraged throughout the whole public procurement and contract life cycle, but the greatest potential for standards to foster innovation arises during the earliest stages when considering goods or services to be procured. By the implementation of a single or whole set of standards, new product processes could be developed by the tendering companies. This can also extend the range of potential tendering companies. As the range of potential suppliers increases it encourages companies to provide more innovative solutions to be ahead of competitors. Standards also reduce the risk for companies active in R&D and should further encourage innovation. From an overall economic perspective, successful innovation also encompasses the diffusion of innovative products. Consequently, their procurement by public institutions triggered by the cost-saving and risk-reducing impacts of standards also promotes this aspect of successful innovation. The second case is much more likely than the first case.

Example:
Variable message signs on motorways in the United Kingdom

Only a limited range of information on traffic conditions and advice could be displayed on signs for drivers along the roadways, because there was no standard that allowed the needed flow and exchange of data. After a standard became available, the market developed a highly flexible roadside communication system which is now used worldwide.

Example:
A stapler to save space

Stapled papers use up more space in folders than non-stapled paper. The development of a flat-clinch paper fastener is an example for product innovation, where incremental innovation has improved the stapling-technique using up to 30% less space in folders. This innovation was initiated by public procurement.

A product innovation is the introduction of goods or services that are new, or significantly improved, with respect to characteristics or intended uses. This includes improvements in technical/conformance specifications components and materials, incorporated software, user friendliness or other functional characteristics.

A process innovation is the implementation of new or substantially improved production or delivery methods. These include considerable changes in technique, equipment and/or software.

- Foreword
- Introduction
- The role of standards in the public procurement process to promote innovation
- Legal aspects
- Standards for purchasers
- The STEPPIN steps to finding and using standards
- Practical cases

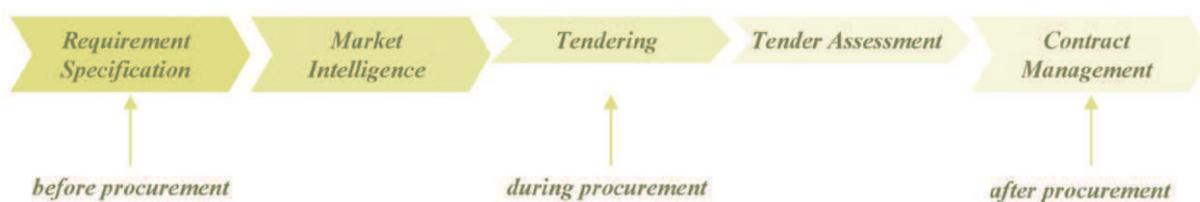


In public procurement, standards can be a tool for the procurer to help communicate needs, shape functional specifications or serve as a basis for selection criteria. Here the procurer can use standards before procurement takes place, during the process of procurement itself and even after procurement. Standards can focus on different problems and challenges a procurer seeking to buy innovations might be faced with. The economic rationale and impact behind the entanglement of procurement, innovation and standards can be beneficial, both to the procurer as well as to society and the economy as a whole.

Standards can be used in all stages of a tender

The following flow diagram is one way to illustrate the opportunities of using standards in the procurement process to stimulate innovation. These are discussed in three phases, covering the period before procurement, during procurement and post procurement.

Phase in procurement



2.1 Before procurement

For Standards that have not been developed by a recognised body and/or are not publicly available, the relevant intellectual property rights have to be checked in order to avoid *de-facto* discrimination which may result in only a single, or very few tenders being submitted to the procurer. This is especially relevant when considering that a monopolistic or quasi-monopolistic market structure, for a certain good or service, will eventually lead to higher prices as compared to a more competitive market.

Example:

Performance instead of product

Number of printed pages per minute instead of specific design or product specification, or brand specific details

In order to promote or allow innovative solutions, that is, both the development of innovative products by the tendering companies as well as the option of the procuring organisation to buy innovative products, the procurer should



preferably refer to performance-based standards, in other words, specifications defining the desired output. An example of this would be the number of printed pages per minute, instead of a specific design or product standards.

After this preliminary selection process, the selected standards should be communicated to the market in advance of the publication of the tender. In the tender document, referencing standards should be used to specify input and output requirements of the tender.

Long-term planning using standards and the involvement of users

One challenge for the procurer is to communicate long-term goals to a large number of potential tenderers. In providing long-term stability to technical development, Standards can be of great benefit for the procurer that seeks to procure strategically without taking the risk of being too strongly attached to the strategies of one or a few companies. By using standards the procurer can follow an already established technological path, and choose a bundle of technologies solving a specific problem that is embedded in a set of standards in this way and procure the most innovative solutions along this path, avoiding the risk of incompatibilities or frictions in implementing new technologies. Generally, procurers that seek these benefits can use two approaches.

They can either select a set of standards from their own perspective, using tools and strategies discussed in this handbook, or they can seek early involvement of stakeholders suitable to tenderers, or use a mix of both strategies to achieve maximum positive impact for the procurement strategy. In some cases the procurer can use standards as a procurement tool, especially when faced with unusual demands, new types of products or purchasing, or to keep up with technical change without taking too much risk.

The more challenging a purchasing task is and the more innovative solutions are, the higher the benefit the procurer will obtain from early user involvement. Unlike regular early user involvement, which might be subject to the influence of those involved, versus those not involved, the procurer can use standards as one element for retaining potential competition between tenderers and, at the same time, collect relevant information for procurement.

This would be because by focusing on standards in the early stages of procurement, suppliers cannot promote their specific proprietary solutions or product, thereby shaping the procurement process to their own advantage; a situation that may not be beneficial for the procurer. Standards here represent the result of a consensus process and are available for free, or at low cost, to all potential competitors. In later stages of the procurement process this will lead to a more competitive process which the procurer will benefit from the most.

Some issues to consider are the following:

- If faced with a challenging task, involve users early in the process. Use standards to gather information without distorting competition at later stages.

- Foreword
- Introduction
- The role of standards in the public procurement process to promote innovation
- Legal aspects
- Standards for purchasers
- The STEPPIN steps to finding and using standards
- Practical cases



- Consult with suppliers and supplier bodies, for example, by means of suppliers' conferences, to enable suppliers to help select relevant standards, provide feedback on feasibility and affordability, and gear up to be able to respond to future procurements relying on the selected standards.
- Understanding the market, the environment of relevant standards in which it operates, the companies within it and their capabilities to meet the standards is an important step in encouraging supplier innovation.
- Care is needed with early supplier involvement. Deal with suppliers on an open and equitable basis in the selection of standards. To avoid later accusations of favouritism, and to maintain healthy competition, avoid locking in to a particular solution. Take into account the link between standards and intellectual property rights.

Procurers might also use other sources to select appropriate standards instead of early involvement. If the procurer is facing a market with few large and dominating companies and a high number of small and medium sized enterprises, using other sources such as databases can be more beneficial than early user involvement. Here, the procurer can actively use the consensus characteristic of standards. The positive effects of standards are similar to the approach of seeking an early dialogue. This approach is more recommended when the procurement process is less challenging, the industry structure and competition dynamics are better known to the procurer, or when the procurer seeks to increase competition in tendering processes. When aiming to open up a new field of purchasing, where in the future a large number of procurement processes are expected, the best strategy is a mixed strategy with an early user involvement in the beginning to set an initial starting point and, later using external data sources to keep up to date with new standards or new versions of standards. This strategy also helps to speed up the preparation processes in the long run.

Some practical suggestions are as follows:

- Identify a stock of relevant standards. At regular time intervals, check for new versions of standards and new standards in the area of interest.
- Use standards regularly as a signal to potential tenderers. This will act as a signal not only to dominating companies, but also to enable smaller companies to be innovative.
- Use standards to establish a consistent procurement strategy with a long-term planning horizon.

2.2 During procurement

After the reception of the tenders, the evaluation of the proposals can be achieved more efficiently and objectively by relying on the referenced standards. If the referenced standards are not taken into account, the tenders



are not eligible for further selection and possible negotiation process. The quality, or cost-effectiveness, of those proposals meeting the minimum requirements set by standards, can be more effectively and efficiently measured by referring to this baseline. This assessment includes also the proposal of innovative solutions outperforming the threshold requirements.

In every procurement process there is a time when functional specifications have to be prepared, tenders published and selection made. In this phase standards can help, acting as guideposts for the procurer and help streamline preparation and evaluation of proposals. Standards can also yield beneficial effects on competition by facilitating the participation of SMEs and even help in managing contracts.

Involvement of small and medium sized enterprises (SMEs)

Small innovative firms are handicapped in the creation of standards, but referencing standards can help SMEs to compete successfully in public procurement. SMEs are often excluded from contracts owing to a lack of capacity on their part, and so their innovative potential cannot be exploited. Breaking the tender into smaller chunks may create the opportunity for SMEs to participate. Alternatively, public procurers can encourage larger suppliers to form alliances with smaller, creative partners. In both situations, referencing standards can help to coordinate the activities of the tendering small firms, or the consortia of large and small companies, which indirectly promotes innovation.

Input and output specifications

Standards specify parts and components, and therefore inputs, to both well-established and innovative products. However, other types of standards define processes and even the performance of products. From the innovation perspective, output or even outcome or problem specifications, instead of input specifications, challenge the supply base to generate ideas. However, referencing standards can play an important role in an output or outcome-oriented innovation promoting procurement approach.

- Standards can provide the baseline, or the framework, for innovative solutions.
- The specification of certain components can be cost-saving by allowing mass production, but is not inhibiting innovative solutions per se, e.g. for a whole system.
- In allowing suppliers the freedom to submit innovative bids, procurers should specify compliance with standards where appropriate, for example to ensure compatibility with the existing infrastructure or further components to be procured.

- Foreword
- Introduction
- The role of standards in the public procurement process to promote innovation
- Legal aspects
- Standards for purchasers
- The STEPIN steps to finding and using standards
- Practical cases

Accepting variants

Referencing standards in public procurement can be seen as setting a baseline and not a definite and irrevocable specification. For this reason, bidders should actively be informed, and even be encouraged, to submit alternative variants to the published standard specification.

Selection of tenders

Contract managers can challenge suppliers to be innovative by suggesting either new released standards, or improvements to the standards originally referenced in the tender. Techniques include the use of continuous improvement drivers and supplier suggestion schemes, which are similar to the widely implemented staff suggestion schemes. In order to allow for such flexibility towards innovation in the procurement contract, provisions need to be built into the contract from the very beginning.

Economic considerations are not necessarily a barrier to innovative solutions. This is especially relevant in procurement as decisions should not be based on lowest cost, but on 'value for money', which is defined as 'the optimum combination of whole life costs and quality to meet the user requirements'. Sometimes problems arise on how to define and, especially, measure the required quality. Here referencing a specific standard can be used as baseline. The best value for money can come from an innovative solution based on the most ambitious standards, or even outperforming them. At the start of procurement, the requirements specification supported by standards can reflect the need for innovative solutions, subject to usual rules on cost-effectiveness of public expenditure. At the award stage, the value accruing from innovative aspects of the bid can also be relevant to the evaluation of 'whole life cost and quality'.

2.3 After procurement

During the contract period or on completion of the contract, risks of defective products or breakdown of systems or processes may arise. These are more easily handled if the contractors are able to refer to standards specified in the contract. Standards provide certainty which is often invoked in liability cases.

In general, standards can play an important role in procurement by increasing efficiency of the tendering process, reducing the risk for both the procurer and the tendering companies that are usually associated with innovative solutions, providing objective baseline criteria for cost-effectiveness in public procurement, but also helping to promote the development and diffusion of innovations through public procurement.





Seven reasons

Why standards drive innovation

- 1 Standards are able to promote the diffusion of innovative products, which is most important for the economic impact of innovation.
- 2 Standards level the playing field and therefore promote competition and innovation.
- 3 Standards are crucial for innovation in network industries, since compatibility standards are the basis e. g. for communication networks.
- 4 Standards are crucial for the substitution of an old technology by a new technology in network industries, since (forward and backward) compatibility allows the coexistence of old and new technologies (e.g. GSM and UMTS), which is necessary for the adopters of the new technology.
- 5 Standards are crucial for the definition of new platform technologies, which are the basis for competition and innovation in downstream markets (e.g. GSM as a platform for numerous mobile services).
- 6 Standards reflect also user needs and promote therefore the purchase, i.e. the diffusion, of new products by early adopters.
- 7 Standards set minimum requirements for environmental, health and safety aspects and increase therefore the trust in innovative and, possibly, more risky products, which increase the usage by early adopters or make new products attractive for a wider public.

Standardisation presents the following characteristics:

- The process results in the publication of standards, and other deliverables with a more restricted consensus, such as workshop agreements. Standards are made available to the public free of charge or against a fee. The implementation of standards may be free, or in some cases subject to payment of compensation to owners of intellectual property rights. The usage of standards remains voluntary.

Standards can not only help the procurer during the process, but they can also have beneficial effects for the procurer after the purchasing process.

Maintenance cost

In some cases purchasing costs are only a small fraction of the overall cost of procuring a technology. Maintenance cost can far exceed the cost of purchase in the long run and be a substantial burden when an initial buying decision, even though rational at the moment of purchase, proves to be costly, and in the most severe cases, can lead to extensive cost for replacing large chunks of technologies or infrastructures. The integration of standards can help to reduce the repair and maintenance costs. Here again the long-term stability of standards, as well as their pro-competitive effects, play a crucial role. Both effects, taken together, can also ensure that maintenance will be available in the future and that competition will help the procurer to select from a range of potential tenderers and also to have a consistent procurement strategy by referencing the standards used in the initial purchasing process. This would be especially true when the procurer has bought a technology that has a long-life cycle.

In some areas this benefit will also apply to products with short life cycles. This is the case when a high degree of incremental improvements coincide with strong path-dependencies and the need for downward compatibilities. This is mostly the case in the realm of ICT but can also apply to other areas.



- Standards can reduce maintenance costs due to their long-term stability
- This is, however, not only true for products with long life-cycles. The more important standards are in an industry, the stronger is their effect on later maintenance costs.

Risk and reward sharing

Risks need to be sensibly apportioned, and joint benefits should be pursued. The reward from any suggestion schemes in operation is a factor to motivate suppliers. In contrast to possible rewards, referencing standards is an efficient instrument to reduce the risks associated with innovative solutions for both the public procurer and the supplier. The public procurer reduces the range of qualities offered in the proposals. The supplier exculpates themselves from possible liability claims in case of accidents and damages.

Summarising, referencing standards reduces the general risk for both public procurers and suppliers of innovative solutions, which gives additional leeway for even more innovative solutions.



Tip:

Decide how to manage risk in the procurement process. Interoperability standards are able to help.

Ownership of intellectual property and the balancing effect of standards

Intellectual property is a very sensitive, but also ambivalent aspect, in the public procurement of innovative solutions. In general, intellectual property rights (IPR) should ultimately rest with the party who is best able to exploit it. Consequently, it should not always be assigned to the buyer. Against that, assignment of IPR to suppliers may serve as a damper to competition. In any event, public sector organisations must take care not to 'leak' suppliers' IPR, that has not been bought by the public sector, to other companies as that is wrong, in principle, and discourages future innovation. The interconnection between IPR and standards can be used to provide additional options, which may be more efficient than a constellation without standards.

The role of IPR in standards is rather ambivalent and controversial (Blind et al. 2002). From a static, and a diffusion-related, point of view it is most efficient to provide standards as a kind of public good on a royalty-free base - if parts of the specification are covered by patents or other IPR. Formal standards should be licensed according to the so-called RAND (reasonable and non-discriminatory) clause, which levels the playing field for potential competitors, but allows the patent-holders - in contrast to the royalty-free scheme - to generate some licensing revenues by incorporating their innovative technologies in formal standards.

Therefore, standards represent a compromise between allocating the IPR completely to the supplier and attributing it exclusively to the public procurer. The use of standards following the RAND clause is also favourable for the public sector, since in further procurement processes it is likely that alternative suppliers are able to offer

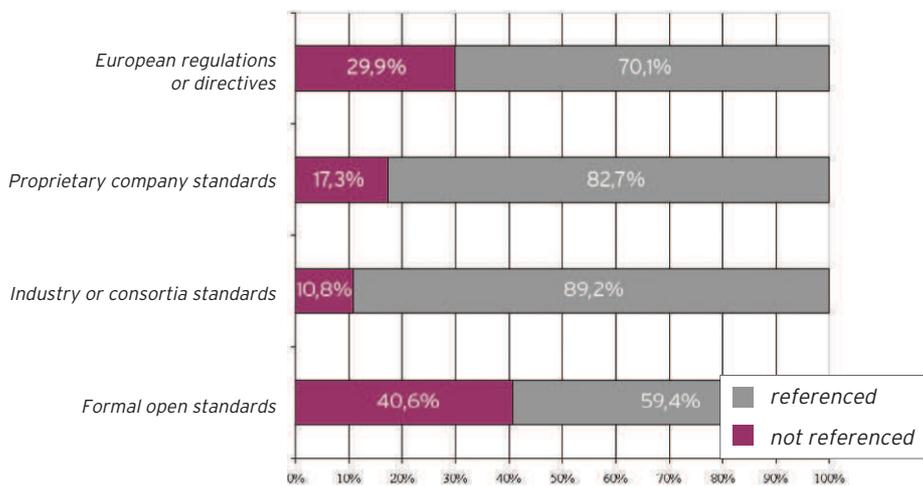




competitive bids, which would not be the case if the original supplier holds the IPR exclusively, and therefore prevents lock-in into one supplier for the public sector. In addition to the higher static efficiency of using standards to balance IPR interests, between the public sector and the suppliers, the use of formal standards to be licensed according to RAND as a platform for follow-up innovation activities is certainly superior to the public sector or the supplier being the exclusive rights holders. The former is either not interested, or even faces legal barriers, in commercialising the IPR to the private sector. The latter owning the exclusive IPR, would certainly follow a profit-maximising strategy, which may lead either to no licensing of the IPR at all or to licences at higher prices than under the RAND clause. In both cases, the diffusion of the innovative technology or product protected by the IPR will be restricted and the overall long-term innovative dynamics of the relevant industry reduced.

2.3.1 Standards in tender documents

The STEPPIN project reviewed 531 tenders to identify whether, and which, standards were explicitly used in public procurement processes. The project identified that standards were often explicitly used in the public procurement processes, but mainly in order to describe product specifications or to set minimum requirements. Most of those tenders reviewed used an open tendering procedure, taking between one to nine months to appoint the supplier. It is worth noting that it was the purchasing departments within the public authorities in question who defined the 'need' for goods and services.

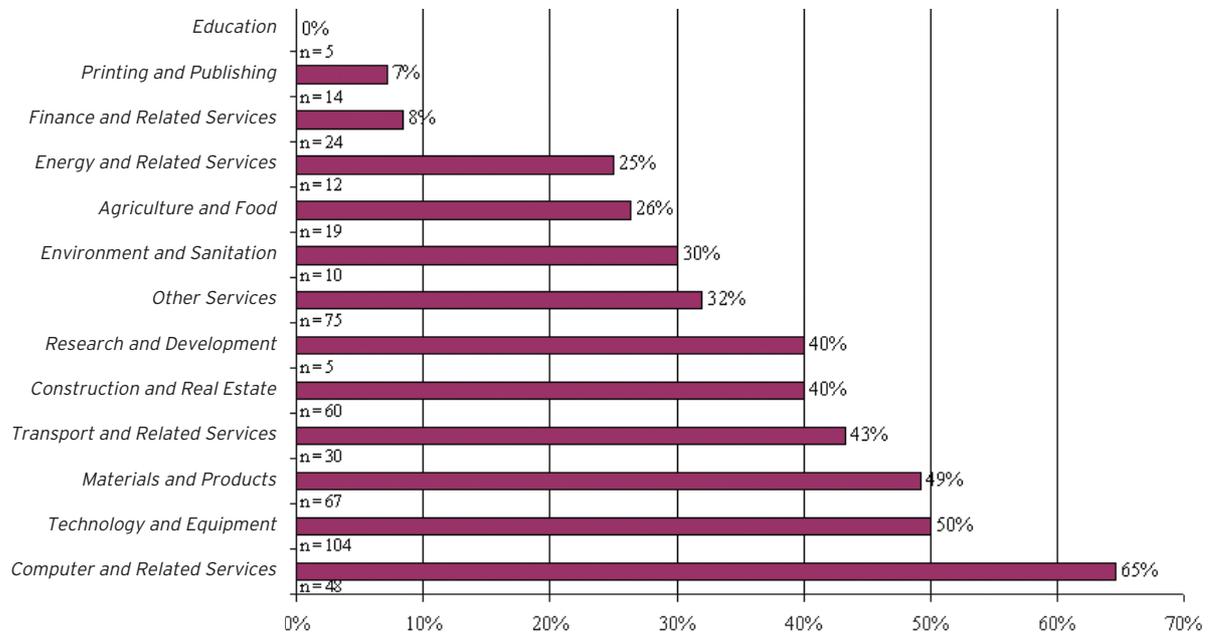


The different types of standards and regulations referenced in tenders





In the majority of procuring organisations, no systematic or regular process had been established to monitor any relevant technological, or market developments and especially the development of new standards. In general, precise technical or conformance specifications dominated, rather than performance and functional specifications.



Standards utilisation in tenders by industry sector



CHAPTER 3: Legal aspects





3 Legal aspects

This chapter describes the legal framework of public procurement, with a focus on the use of standards. The relevant rules are formed by the World Trade Organisation (WTO) Governmental Procurement Agreement (GPA) at international level, Community legislation at European level and by national legislation.

In the last part of this chapter, the opportunities for public purchasers to promote innovation through the use of standards at different phases during the procurement procedure are highlighted.

3.1 Terminology

The terms ‘tenderer’ and ‘economic operator’ are used throughout this chapter to designate all three categories of persons or companies which tender for one of the three types of public contracts: supply contracts, works contracts or services contracts.

The terms ‘contracting authority’, ‘public purchaser’, ‘public authority’ and ‘public procurer’ all refer to the public entity which intends to purchase certain products, works or services.

For ‘contracting authorities’, the acronym ‘CA’ is used hereafter.

3.2 International rules applicable to technical specifications and standards

The GPA is one of the multilateral agreements of the WTO that provides for the opening up to competition of public procurement in signatory states. The Agreement achieves this objective by extending the GATT principles of non-discrimination (most-favoured-nation and national treatment) and transparency to the procurement procedures adopted by public entities. Because it is a multilateral agreement, the GPA applies only to the signatory parties. It is actually a bundle of bilaterally negotiated arrangements regarding the public entities, the goods and the services (including construction services) covered. Appendix I determines the coverage of the GPA, by specifying the covered public entities, the covered goods and services and the thresholds above which the GPA applies. The European Community (EC) brought the same public entities under the coverage of the GPA as under the Procurement Directives but excluded completely the services mentioned in Annex II B of the Directive 2004/18/EC.

Foreword

Introduction

The role of standards in the public procurement process to promote innovation

Legal aspects

Standards for purchasers

The STEPPI steps to finding and using standards

Practical cases

As regards the use of standards in procurement procedures, the GPA clarifies the preference for performance requirements and for use of international standards. Article VI 2 on technical specifications provides:

'Technical specifications prescribed by procuring entities shall, where appropriate:

- (a) be in terms of performance rather than design or descriptive characteristics; and*
- (b) be based on international standards, where such exist; otherwise, on national technical regulations, recognized national standards, or building codes.'*

The European Community has taken the obligations contained in this agreement into account in drafting the Procurement Directives (Public Sector Directive 2004/18/EC and Utilities Directive 2004/17/EC). Recital 7 of Directive 2004/18/EC expressly clarifies that contracting authorities are in compliance with the GPA if they apply the provisions of the Directive to economic operators from signatory third countries. Nevertheless, economic operators from third countries do not have access to legal remedies under European law, as they are not covered by the scope of application of the Procurement Directives. Recital 7 also states that the GPA does not have direct effect. For economic operators from third countries this means that they are not able to invoke provisions of the GPA before national courts. The only remedy left to economic operators from non-EU countries is the dispute settlement mechanism of the World Trade Organisation.

3.3 Applicable Community law to technical specifications

The main EC legislation on public procurement is constituted by the Public Sector Directive (2004/18/EC) and the Utilities Directive (2004/17/EC). The Directives set out procedures for the purchase of goods, services and works by public authorities or utilities. These procedures must be followed before awarding a contract whose value exceeds the thresholds provided for in the Directives, unless a specific exception is allowed. The procurement procedures falling entirely, or partly, outside the scope of the Directives still have to comply with the EC Treaty. In addition, the same relevant Treaty provisions on freedom of movement and the principles derived thereof also apply to situations falling under the coverage of the Directives, to the extent to which certain aspects are not exhaustively regulated in the Directives (Hi, C-92/00; Coname, C-507/03).

The Procurement Directives regulate the procedures to be followed when buying the products, services or works required, but they do not prescribe the specific characteristics of the products or services to be purchased. In the case of some products, Community Product Directives regulate mandatory requirements for these products in relation to their environmental, health risks et cetera. Several hundred harmonised standards have been developed based on these requirements. Thus, Community Product Directives influence what the public procurer can purchase, and the importance of understanding the interaction of the procurement rules (procedural) with the





requirements of the Product Directives (substantive). The mutual recognition principle is applicable in relation to the rest of the products which are not the object of this latter type of Community norm. This principle says that a member state may not refuse products or services lawfully produced and/or marketed in another member state, unless justified by public interest.

3.3.1 Community legislation on specifications

The restriction on trade resulting from different national product specifications/standards is one of the most significant problems that the EC has been facing in creating a single European market. In response to this problem, the European Community initially adopted the practice of including detailed standards in Directives. This regulative approach proved to be very time-consuming and cumbersome in the case of amendments. In the mid 1980's the Community switched to an alternative strategy, called the 'New Approach'. This strategy implies that the European Directives only set out broad performance requirements ('essential requirements') instead of detailed requirements regarding subjects such as health, environment, consumer protection et cetera. The Directives further mandate the adoption of European standards on the basis of these 'essential requirements' via the European standardisation bodies (CEN, CENELEC and ETSI). The standardisation process develops more detailed requirements for the respective products and the standards usually contain additional requirements agreed upon by the stakeholders involved in the adoption process. Once adopted, these standards are published in the Official Journal of the European Union. The date of their publication marks the moment they start providing a presumption of conformity with the respective Directive.

The standards are not mandatory, as they represent only one solution which complies with the essential requirements. If a producer applies other technical specifications to meet the essential requirements, they may prove conformity through one of the conformity assessment mechanisms referred to in the respective Directive. The CE marking of the products covered by the 'New Approach' Directives is mandatory. The CE mark guarantees conformity with essential requirements, irrespective of whether the product applies the mandated standard or other technical specifications complying with the essential requirements.

The 'New Approach' Directives are total harmonisation directives. This means that member states may not derogate from the essential requirements which are adopted by taking into consideration high levels of protection. Moreover, member states may not refuse CE marked products/services on grounds of technical inadequacy, unless the escape procedure provided for within the directive is followed. There are at the moment some 25 'new approach' directives and a few hundred of harmonised standards created in their context (see www.newapproach.org).

- Foreword
- Introduction
- The role of standards in the public procurement process to promote innovation
- Legal aspects
- Standards for purchasers
- The STEPPI steps to finding and using standards
- Practical cases

3.3.2 Treaty obligations for specifications

The impact of the EC Treaty on public procurement derives from the rules on free movement. The treaty has a significant impact in the field of public procurement, for a couple of reasons. Firstly, as suggested by the ECJ in the Unix case, the use of one specification in one contract may trigger a violation of the Treaty. Secondly, the ECJ confirmed in its case-law that the Treaty applies to procurement contracts falling entirely, or partially, outside the scope of the Directives and also to situations falling under the scope of the Directives, in regard of aspects non-exhaustively regulated. In the Beentjes case, the Court pointed out that the Procurement Directives are not a complete code of rule regulating all aspects of procurement. The national laws or the procurement practice may complement these rules, provided they are consistent with the provisions of the Directives and the Treaty. Nevertheless, the detailed obligations of the Directives are not duplicated for contracts or obligations falling outside their scope. Moreover, types of contracts expressly excluded from the application of certain obligations in the Directives are exempted from meeting the same obligations under the Treaty¹. For example, procedures without prior publication of an advertisement, used for contracts falling outside the coverage of the Directives, are exempted from the advertising obligation, if the same reasons for exemption from publication as provided for the directives are applicable. For reasons of completeness, it should also be mentioned that contracts falling outside the coverage of the Directives are reviewed only 'in the event that such contracts are of certain cross-border interest'. (Case C-507/03, Commission v Ireland)

Besides the applicable provisions of the treaty related to the freedom of movement, some principles derived thereof apply to all procurement procedures:

- The principle of equal treatment implies that tenderers in equal situations should not be treated differently and tenderers in different situations should not be treated equally. For example, the specifications stipulated by the contracting authority must be met and applied in the same manner to all candidates.
- The principle of non-discrimination prohibits all discrimination based on local provenance or nationality. A contracting authority may not formulate specification or use standards such as to give preference to a local company.
- The principle of mutual recognition was developed in the Cassis de Dijon case (C-120/78). It has been used to complement the strategy of the European Commission towards specifications and standards, in regard to products and services not covered by either detailed directives or 'new approach' directives. The principle impedes member states to refuse products or services lawfully produced and marketed in another member state, unless justified by art.30 EC Treaty or by mandatory requirements developed by the ECJ case-law (such as: effectiveness of fiscal supervision, consumer protection, fairness of commercial transactions or environmental protection) and at the same time proportional. The principle was expressly translated in the Procurement Directives into the rule that the CA must accept equivalent proof of compliance issued by recognised non-national bodies.

¹ Commission Interpretative Communication on the Community law applicable to contract awards not or not fully subject to the provisions of the Public Procurement Directives, (2006/C 179/02)





As regards the formulation of technical specifications, the general rule is that the CA may not refuse products/ services which meet its exact functional or performance requirements. It is not clear though whether a CA may reject products that are slightly different from those specified. Arguably, the formulation of specifications during the procurement procedure, if not adopted for protectionist reasons, does not have a hindering effect, and thus, need not be justified.

- The principle of proportionality means that the contracting authority must not set out more far-reaching requirements than necessary with respect to the needs in the actual procurement in question.
- The principle of transparency was deduced by the European Court of Justice (ECJ) from the principle of non-discrimination, which was considered to contain an inherent obligation of transparency. For contracts falling within the scope of the Directives, the transparency principle concerns the obligation of the contracting authority to provide information on the procurement and how it is going to be carried out, and convey that information to all potential tenderers, as detailed throughout the relevant provisions of the Public Sector Directive. For contracts falling outside the coverage of the Directives, the transparency principle is limited to an obligation to advertise the essential details of the contract to be awarded and of the award method together with an invitation to contact the contracting entity².

3.3.3 Specifications under the procurement directives

A. Approach

The initial objective of the European Commission to the European procurement rules was to open up the national public markets and to ensure the free movement of goods and services within the EU. To this end, the Commission initially promoted the use of European standards mainly in order to level the playing field within the internal market, and mandated the CA to buy products or services complying with these standards, where they existed. Recently though, the European Commission has realised that procurement rules also have a powerful potential to enable innovation and decided to pursue this additional objective. The increasing interest of the European Commission to exploit this potential is illustrated by the amendments to the new Procurement Directives, which aim to provide more flexibility to the contracting authority.

The new Procurement Directives leave room for intelligent procurers to use specifications such as to promote innovation, but they do not regulate the specific way the standards should be used to this end. As a consequence, the burden lies on the CA to decide on the appropriate moment to select the standards, on the appropriate standards or parts of a standard to use, and on the appropriate manner to use the standards throughout the procure-

² Commission Interpretative Communication on the Community law applicable to contract awards not or not fully subject to the provisions of the Public Procurement Directives, (2006/C 179/02)

- Foreword
- Introduction
- The role of standards in the public procurement process to promote innovation
- Legal aspects
- Standards for purchasers
- The STEPPI steps to finding and using standards
- Practical cases

ment procedure, so as to remain in compliance with the procurement rules and with the Treaty. This handbook is destined to support these choices of the CA.

B. Provisions on specifications

Both the Public Sector and the Utilities Directive contain rules for the formulation of technical specifications of a desired product/service, but this chapter only illustrates the relevant provisions of the Public Sector Directive.

“Technical specification” means the characteristics of a product or service that the CA wishes to buy. Annex VI of the Directive, paragraph 1b provides a non-exhaustible list of possible technical specifications:

“The required characteristics of a product or a service, such as quality levels, environmental performance levels, design for all requirements (including accessibility for disabled persons) and conformity assessment, performance, use of the product, safety or dimensions, including requirements relevant to the product as regards the name under which the product is sold, terminology, symbols, testing and test methods, packaging, marking and labelling, user instructions, production processes and methods and conformity assessment procedures”

The principles applicable to technical specifications (non-discrimination, equal treatment, transparency) are defined in Clause 29 of the preamble.....:

“The technical specifications drawn up by public purchasers need to allow public procurement to be opened up to competition. To this end, it must be possible to submit tenders which reflect the diversity of technical solutions. Accordingly, it must be possible to draw up the technical specifications in terms of functional performance and requirements, and, where reference is made to the European standard or, in the absence thereof, to the national standard, tenders based on equivalent arrangements must be considered by contracting authorities.”

“To demonstrate equivalence, tenderers should be permitted to use any form of evidence. Contracting authorities must be able to provide a reason for any decision that equivalence does not exist in a given case.”

“The technical specifications should be clearly indicated, so that all tenderers know what the requirements established by the contracting authority cover.”

and in Article 23:

Paragraph 1 specifies that technical specifications shall be set out in the contract documentation.





Paragraph 7 details the application of the mutual recognition principle: *“contracting authorities shall accept certificates from recognized bodies established in other Member States.”*

The key rules on technical specifications are stated in Article 23, paragraph 3, which specifies that technical specifications shall be formulated either by reference to European or international standards, or in terms of functional or performance requirements. In addition, certain characteristics can be specified by standards and other in terms of functions and performance. When European or international standards do not exist, CAs must formulate the specifications in performance or functional terms. Where referring to standards, each reference shall be followed by the words *“or equivalent”*.

C. Provisions on the means of proof

Related to means of proof, paragraph 4 of art. 23 specifies that, where a contracting authority refers to standards, it *“cannot reject a tender on the grounds that the products and services tendered for do not comply with the specifications to which it has referred, once the tenderer proves in his tender to the satisfaction of the contracting authority, by whatever appropriate means, that the solutions which he proposes satisfy in an equivalent manner the requirements defined by the technical specifications”*.

In case of reference to standards, the CA must accept functionally equivalent alternatives to those mentioned in the listed standards. This provision re-iterates the obligation established by the Treaty for purchasers to accept products/services which fulfil the exact functional or performance specifications requested by the procurer.

In paragraph 5, the inverse situation is specified. Where a contracting authority refers to functional and performance requirements, it cannot reject a tender for products which comply with standards addressing these requirements:

“In his tender, the tenderer must prove to the satisfaction of the contracting authority and by any appropriate means that the work, product or service in compliance with the standard meets the performance or functional requirements of the contracting authority”.

Both paragraphs 4 and 5 specify that *“an appropriate means might be constituted by a technical dossier of the manufacturer or a test report from a recognised body”*. In paragraph 7, recognised bodies are defined as *“test and calibration laboratories and certification and inspection bodies which comply with applicable European standards”*.

From the Public Sector Directive’s definition of technical specification, it appears that a contracting authority may, but does not have to, include requirements on conformity assessments (in other words, that a conformity assessment procedure should be used in the tender to verify compliance with requirements set out in the technical

Foreword

Introduction

The role of standards in the public procurement process to promote innovation

Legal aspects

Standards for purchasers

The STEPPI steps to finding and using standards

Practical cases

specification). However, a few decisions of the EC Court (for example, Unix-case, C-359/93) lay down that *“in order for the criterion to be acceptable, it should be controllable, which would imply that the contracting authority requires -through the submission of certificates for example- elements enabling it to control the information forwarded by the bidder in relation to the criteria.”* The same rule was confirmed for the award criteria (Wienstrom C-448/01).

It follows from paragraphs 4 and 5 that a test report from a recognised body is an admissible but not mandatory way of proving compliance with the requirements set out in the technical specification.

The Directive does not exhaustively regulate what kind of equivalent proof a contracting authority should accept. This implies that each contracting authority must detail its own interpretation in order to ensure that the principle of equal treatment is applied.

Therefore, the contracting authority may choose to verify itself whether the tender conforms to the stated requirements, provided that it has the necessary knowledge and equipment to carry out such verification in a way that treats the tenders equally. Where the authority does not have the adequate knowledge and equipment, it can use a consultancy service to carry out the verification.

If the contracting authority does not want to carry out the verification during the evaluation of the tenders, for example, because it would be too time-consuming, the authority, in the call for tender, may ask the supplier to provide proof (through a conformity assessment), that a certain requirement is complied with. In the sense of EN ISO/IEC 17000, the authority may require either a first party attestation, a supplier's declaration of conformity or a third party certification.

Where requirements on conformity assessments are specified, the CA need to respect the same obligations stemming from the Directives, to either refer to standards “or equivalent”, or to formulate this criteria in terms of functions and performance.

It follows from Article 23, paragraph 4, that a specific conformity assessment scheme³ cannot be specified as mandatory. The tenderer has the option to use another method for proof, provided this party can prove to the satisfaction of the contracting authority that it yields equivalent results.

An exception is made by the CE mark. The CE mark is the formal conformity assessment scheme which provides presumption of conformity with the mandatory essential requirements of the new approach directives. Therefore, when the CA decides to buy a product covered by a new approach directive which requests the CE marking, it does not need to specify 'or equivalent'.

3 Conformity assessment scheme is defined by EN ISO/IEC 17000:2004 as a demonstration that the same specified requirements, specific rules and procedures are fulfilled by a specified product, process, system, person or body (for example, PubliAccesso, quality labels, CENCER Mark, CE mark et cetera.)





3.4 Implications for the public purchaser - How to use standards in order to obtain innovative outcomes and to stay in compliance with the European rules

This section refers to a procurement procedure falling under the scope of application of the Public Sector Directive.

3.4.1 Before procurement

This stage involves the period before the publication of the contract document, when the Contracting Authority (CA) defines its needs and formulates the specifications or decides upon the choice of applicable standards for the desired products/services.

It is of crucial importance for the CA at this early stage to carefully prepare for formulating its technical specifications. An analysis of the existent standards relevant for the product or services to be acquired and of the content of these different standards is recommended. On the basis of the results of this analysis adequate technical specifications can be formulated.

If the CA benefits from the help of a person in the preparatory work of the contract documentation, it may not preclude such a person, or an undertaking connected to such a person, from participating in that contract if they demonstrate that in their particular case no risks for competition arise (Fabricom, Joined Cases C-21/03 and C-34/03).

3.4.2 During procurement - The publication of the tender, the selection stage, the award stage

The Directives give the CA freedom to formulate specifications by reference, in order of preference, to either national standards implementing European standards (when they exist) or international standards, or performance/functional specifications (art.23(3) of the Public Sector Directive). When European or international standards do not exist, CA must formulate the specifications in performance or functional terms. The CA may also mix the two approaches.

Foreword

Introduction

The role of standards in the public procurement process to promote innovation

Legal aspects

Standards for purchasers

The STEPPI steps to finding and using standards

Practical cases

In contrast to the old Procurement Directives, the CA may not insist on the tenderers applying the existing European standard, but must accept equivalent proof of compliance with its functional/performance requirements. This can be achieved by including the words “or equivalent” behind the number of the standard.

Most importantly, the CA has the freedom to use its own additional product requirements which are not referred to in standards, or may use the performance specifications of different standards. This presupposes knowledge of the content of different standards.

At the selection phase, the contracting authority may request proof for suitability of the offered products, services or works. This proof may be in the form of quality assurance standards (art.48). These quality assurance systems should be certified by bodies conforming to the European standards series concerning certification, namely EN 45000 (art.49 of the Public Sector Directive). In this context priority is given to quality assurance systems based on the relevant European standards such as the BS/EN/ISO 9000 series.

After selecting the tenderers, the entity should analyse and compare the offers at the award stage. Art.53 of the Public Sector Directive, specifies the two optional award criteria, the price and the most economically advantageous tender:

Where the contract is to be awarded to the economically most advantageous tender, the contracting authority shall state in the contract documents or in the tender notice the award criteria which it intends to apply.

The effect of the use of standards at the award stage is ensured through weighting the specifications contained in the standard. The award stage is appropriate for ensuring continuity of the innovative approach adopted in the initial phases of the procedure. Therefore, there should be a link between the requirements in the technical specifications and the award criteria. The technical specifications define the required level of performance to be met. However, a Contracting Authority can specify in the tender documents that any product/service/work performing better than the minimum level set by a standard can be granted extra points, which can be distributed at the award stage.

3.4.3 After procurement - Contract performance clauses

In case of follow-up contracts or longer term contracts, it is important that contract performance clauses specify that newly released standards be taken into account. The CA could also include in the contract value engineering clauses, in order to stimulate innovation. Value engineering clauses require the economic operator to apply during the contract period systematic procedures and processes during the contract period, designated to improve the performance of goods and services, by improving the ratio between their functions and the necessary resources





for accomplishing these functions⁴. This comes down to stimulating the economic operator to continuously search for incremental innovation.

3.5 National legislations

The Procurement Directives have been implemented into national law by the European Member States. The old Member States have simply adapted their existing procurement legislation, while most of the new member states have transposed the exact text of the Directives.

Moreover, in many new member states the entire public and utilities procurement is governed by the European rules.

It is therefore important for the public procurer to understand and correctly apply the legal rules on public procurement, including those on the use of standards, in order to achieve efficient and effective results.

- Foreword
- Introduction
- The role of standards in the public procurement process to promote innovation
- Legal aspects
- Standards for purchasers
- The STEPIN steps to finding and using standards
- Practical cases

⁴ In the United States, value engineering is specifically spelled out in Public Law 104-106: "Each executive agency shall establish and maintain cost-effective value engineering procedures and processes." For more info on value engineering, see http://www.value-eng.org/pdf_docs/monographs/vmstd.pdf



CHAPTER 4: Standards for Purchasers





4. Standards for purchasers

Standards do play an important role when two or more parties need to understand each other. They facilitate communication by providing terms and their definitions; they describe the characteristics of parts, and how these look, so that other parts can be produced to match. Standards help to define quality of a product or a service so that parties know what they get and what to look for when checking for quality.

This is also true when two parties are linked by a contract as is the case in procurement. The purchasers, as well as the tenderers, want to be sure that they understand each others language, and that they have the same notion of the goods or services procured and offered.

Using standards is an easy way to do all this when setting up tenders as well as bids; referring to a standard can also save time, as standards can contain all, or most of, the information needed on a product or service so that it is not necessary to describe in the text the characteristics or performance. The risk of making a mistake in describing a product or service is minimised and the terms used and defined in a standard help all parties talk about the same thing.

Standards also help to get the best offer and to get innovative solutions for a specific need. Knowledge about standards and how to use them is therefore important to be able to take full advantage of the benefits of using standards in procurement.

4.1 Standards and innovation

Standards and innovation can go hand in hand. Procurers are looking for the best value for the money they can invest. The best value is not only determined by the price but also by how a product or service is fulfilling the requirements and needs of the purchaser. There may be solutions available that the purchasers have not learned of - to gain access to these solutions the purchasers must describe the performance that is needed so that the suppliers can offer a product or service that fits these needs exactly.

Such innovative solutions are no accidental side effects - the purchasers can push the suppliers even without increased risk if a standard is used to define the required performance. Therefore, the intelligent use of standards can provide innovative solutions.

To push this process, the purchasers must make use of the right kind of standards; if the award criteria are tied to the performance specified in the standards, the better performance will get the higher score so that the sup-

Foreword

Introduction

The role of standards in the public procurement process to promote innovation

Legal aspects

Standards for purchasers

The STEPPI steps to finding and using standards

Practical cases

pliers will try to offer the best solution that they are capable of, also using innovative solutions. If the purchasers want even better results than what the standards define, they can demand a performance improvement upon the requirements defined in a standard.

4.2 Useful knowledge about standards

Standards have been around for a long time. There are many different kinds of standards, there are many organisations that develop standards – and there are also just as many different understandings of what a standard is, how it is to be used and by whom.

In general, a standard is a formal document, on a specific subject, that establishes uniform criteria, processes, practices or methods. A convention of several parties on a subject is often called a standard, but a standard could also be intended as a process or a product that is being used by many.

In Europe, “European Standards”, abbreviated EN, play an important role, as they are significantly supporting the European Single Market and global trade in general. Their number has increased enormously as the Single Market came into reality; they are an integral part of this common European approach on trade.

To be able to fulfil this role, the EN must have certain characteristics. They are developed in an open and transparent process that involves all stakeholders, based on consensus and allows for public comments. The contents of the EN is the same for all members of the organisation developing them. Standards developed by CEN, the European Committee for Standardization, by the national members of CEN and by ISO are often called “formal standards”. There are also other organisations developing standards and their rules may be different, whereby only EN are recognised to support the policies detailed in Chapter 3, (Legal Aspects) of the European Union and the European Free Trade Area.

Due to the open and transparent process and consensus required, an EN is reflecting the requirements that all stakeholders could agree upon, consequently presenting a minimum level of provisions. Standards are only developed when, and if, there is a need. Therefore they are developed to take over specific roles, such as presenting terms and definitions for user to have one technical language; they can give dimensions or describe testing methods; they can describe a product or a service, or a system so that all parties using the system know how to dock to it and where. This has become very important in many sectors to assure interoperability and compatibility.

In recent years, and due to having to seek agreement among all stakeholders, EN have changed in the way requirements are given. While in the past there were standards that described exactly how something had to look like or to be – increasingly more and more standards specify the performance that is expected of a product or service.





Tip:
Let the market propose creative solutions by using performance based standards.

These performance oriented standards allow various solutions as long as the performance provisions are met. Therefore these standards also support procurers, to a high degree, to find innovative products or services that meet their needs and expectations. A guide to finding these standards is available in the following chapter 5.

4.3 The use of standards

The principal rule is that the use of standards is voluntary. There might, however, be an obligation imposed by one party involved for the other to follow a specific standard. This might be the case in private bilateral contracts.

Legislation also uses standards to assure fulfilment of specific needs, for example in the health sector, in the field of construction or in other areas where safety and protection of citizens is an important issue.

In the framework of the New Approach Directives of the European Commission, standards are seen as the instrument to prove compliance with a specific directive; compliance is documented by the CE mark. Yet, the standards providing for the CE mark remain voluntary as the manufacturer might find another way of proving the compliance with the essential requirements of the directive behind the standard, without using the standard itself.

Standards developed in the context of a European Directive can also contain provisions that are not required in order to comply with the Directive. They are part of the standard because the stakeholders saw the need for that specific content. Here it can be useful for purchasers to refer to the standard as a whole, and not only ask for a CE mark on the products or services. They might be offered a higher quality because the tenderer will try to provide the level requested, while also having to comply with the CE mark.

4.4 Standards of particular interest to purchasers

There are a large number and different types of standards available. Product standards and related standards, providing the testing for the products can be of interest for purchasers when covering the good they are looking for.

- Foreword
- Introduction
- The role of standards in the public procurement process to promote innovation
- Legal aspects
- Standards for purchasers
- The STEPIN steps to finding and using standards
- Practical cases

Quality management standards can be worth referencing if the certificate presented by the tenderer covers the processes related to the product or service that is procured.

The reference to interoperability and compatibility standards can be of interest because they assure that the procured good or service match what is existing, or are able to absorb future system expansions. They can also make sure that an innovative solution being offered still fits into the existing system.





CHAPTER 5: The STEPPIN steps to finding and using standards





5. The STEPPIN steps to finding and using standards

Finding the right standard(s) to reference in a procurement document is most important. It is the strategy to get the product or service that is needed. Searching for the right standard means looking for the most suitable one(s), related to the economic relevance and legislative requirements - while at the same time understanding the nature, implementation and potential of standards and the importance of communicating what lays within them.

STEPPIN has therefore developed a seven-step, easy to follow, methodology for searching and using standards in procurement documents.

These steps are explained here and illustrated using examples from practice.

Step 1: Specification of procured good

A clear idea and concept of what to buy, and what performance is required of the product or service to provide what is needed, is essential and the first step in the overall process.

Step 2: Search for existing standards

There are many standards available on the market as well as several methods to find existing standards in specific areas.

All national CEN members (for example, BSI, DIN, NEN, AENOR, DS) have websites where information on all standards published by those members can be searched by introducing relevant keywords. There is also available PERINORM, a database available on subscription, that lists all the standards published by CEN, ISO, national members of these two and other standard bodies.

Example: Step 1

A German police department wants to buy flame-resistant and antistatic fabrics for the manufacturing of comfortable and protective police garments.

Concept:

- Comfortable garments
- Protective garments
- Suitable for police uniforms

Performance required

- Flame resistant
- Antistatic

(Of course, there can be many more requirements according to specific needs).

Example: Step 2

Enter the CPV code for protective clothing into the database. It will result in a list of 72 European standards.

As the antistatic characteristics were decided to be the most suitable for the German police the following series of standards that refers to these properties was chosen from the list.

EN 1149 Protective Clothing - Electrostatic Properties



Tip:

Perinorm; Europe's largest standards data pool. Contains standards information directly from the standards bodies with standards management and full-text tools.

- Foreword
- Introduction
- The role of standards in the public procurement process to promote innovation
- Legal aspects
- Standards for purchasers
- The STEPPIN steps to finding and using standards
- Practical cases



Procurers very often use the CPV, the Common Procurement Vocabulary (CPV) for categorising their procured goods or services. This CPV can be used as input to the STEPPIN Knowledge Base (signposted from the INNOVA STEPPIN website) to retrieve information on those standards that are linked to the CPV and thus, are the most relevant and significant for the goods or services sought.

When looking for a Standard that is linked to a European Directive, a website ran by the European Commission called 'New Approach Standardization in the Internal Market', in partnership with national standards organisations, is a good source to find the relationship of directive with the relevant standards.

Directive reference	Subject of directive
90/269/EEC	Appliances burning gaseous fuels
2000/9/EC	Cableway installations designed to carry persons
89/106/EEC	Construction products
2004/100/EC	Electromagnetic compatibility
94/9/EC	Equipment and protective systems in potentially explosive atmospheres
93/15/EEC	Explosives for civil uses

www.newapproach.org

Step 3: Selection of appropriate standard

If a European standard is selected for reference there will be, by rule, no contradicting national standard. If there is no European Standard available, according to the European Procurement Directive, an ISO standard may be chosen. If this is also unavailable then a national standard published by a recognised standards body may be used.

Though standards published at the national, European or international level are considered for revision every five years, it is important to identify and select the version that

Example: Step 3

The German police decided to use the German version of the standards needed because they are in German, knowing that they are equivalent to the standards, with the same number, in any country that is a member of CEN.

It proved that the standard EN 1149 comes in four parts:

DIN EN 1149-1 Protective clothing - electrostatic properties - Part 1: Test method for measurement of surface resistivity; German version EN 1149-1: 2006.

DIN EN 1149-2 Protective clothing - electrostatic properties - Part 2: Test method for measurement of the electrical resistance through a material (vertical resistance); German version EN 1149-2: 1997.

DIN EN 1149-3 Protective clothing - electrostatic properties - Part 3: Test methods for measurement of charge decay; German version EN 1149-3: 2004.

DIN EN 1149-5 Protective clothing - electrostatic properties - Part 5: Material performance and design requirements; German version EN 1149-5:2008

German police decided to refer to all four standards in the procurement document because all are important for the performance - more specifically, for testing the performance when having an innovative solution. Part 5 was important because it had to do with comfort in wearing the garment, such as size and body movement.



Tip:
New Approach; Standards related to directives. This is a website to provide access to information on standards and routes into the standardisation process



is in force. This information can be found via the websites of the national members of CEN, in the PERINORM database and on the website of the 'New Approach'.

As performance based standards support innovation through procurement better than descriptive standards, the selection of such standards is important in this step.

Step 4: Accessing standards

The websites of all national members of CEN, as well as the website of CEN itself, can be used to retrieve information on a standard.

Sometimes it is useful to contact a national member of CEN directly to have information in the right language. The addresses of all the members can be found at www.cen.eu

As standards by CEN, ISO and its national members are covered by copyright, only original sources should be used; this also makes sure that it is the latest version that is available.

Standards usually need to be bought for a fee. Therefore it is important to find out as much as possible about one particular standard before ordering it.

Step 5: Search for relevant information in a standard

This fifth step relates to searching for relevant elements as defined in any standard document. Most standards follow a typical layout for contents:

- Scope: the scope of a standard defines without ambiguity the subject of the document and the aspects covered, also indicating the limits of applicability of the document

Example: Step 4

The German police did use the national version of a standard and also made sure that they had the latest version. Part 4 of EN 1149 is not available yet, so it was decided not to consider it.



Tip:

A standard is the result of a consensus process and it is not presenting state-of-the-art of a technology, but all critical parameters of the technology are usually part of a standard and these are important in a procurement situation.

Example: Step 5

Part 5 of EN 1149 has been identified by the German police to describe the performance of the material.

The list of contents follows the one described above; chapters on requirements include electrostatic performance requirements for the material and the design.

One chapter also specifies the information the manufacturer has to provide on the garment. For example, on warning notices, and how the garment shall be correctly fastened and worn.

This leaves room for the manufacturer to develop a new solution.

- Foreword
- Introduction
- The role of standards in the public procurement process to promote innovation
- Legal aspects
- Standards for purchasers
- The STEPIN steps to finding and using standards
- Practical cases



- Normative References: this is a list of referenced documents cited in the standard that are indispensable for the standard itself. Some of the references also have specific dates listed (e.g. EN 1149:2006). These are the versions of the standards. If no date is given the latest version is referenced and should be used.
- Provisions/Requirements: this chapter (or these chapters) contain all the characteristics relevant to the aspects of the products, processes or services covered by the standard, explicitly or by reference to another standard. It can also give limiting values of quantifiable characteristics and how to determine these values.
- Normative Annexes: these annexes give provisions additional to those in the text body. In European Standards, existing special national conditions are given in such a normative annex, as are endorsements of International Standards and other reference documents as European Standards.

Step 6: Interpretation of requirements in standards

Performance oriented standards do not prescribe how a requirement has to be achieved; they describe the performance to be achieved under certain conditions.

Provisions, in a standard, may also be deviated from as standards are voluntary. It should be noted however that deviations may result in the loss of qualification of the CE mark, which means that trade of that good or service across borders might not be allowed anymore. Therefore, any deviation should not go below a performance required in a standard that provides for a CE mark.

Step 7: Reference to standards in tenders

Reference to standards should concern only those necessary to result in the required performance.

Example:

Step 6

The requirements in EN 1149 including the material requirements leave it open to the manufacturer what material will be chosen for the garment. This gives the opportunity to use innovative materials in an innovative way.

Example:

Step 7

The German police chose the right standards, selected performance based requirements and decided to add their 'own' requirements. This can be a good strategy to push innovation by linking specific requirements of the end-user and standards. The trade-off in this case is that it may limit the number of potential tenderers. To achieve the maximum number of tenderers it is more beneficial to use only those requirements specified in a standard.



CHAPTER 6: Practical cases





6. Practical cases

The STEPPIN handbook aims to be a reference guide for public procurers. This chapter details practical cases of where standards have been used to promote innovation in the public procurement process.

Case 1: NHS Estates, an executive agency of the United Kingdom's department of health

This case study relates to experiences of heat-labile endoscopes⁵. The standard used in this case study is Health Technical Memorandum (HTM) 2030 for Washer Disinfectors⁶. This is not a standard developed by a standards body but by the National Health Service of the UK. The HTM is general and covers a number of types of washer. The standard gives guidance on the choice, specification, purchase, installation, validation, periodic testing, operation and maintenance of washer disinfectors used by the UK National Health Service for processing medical devices, laboratory ware and sanitary products.

It is applicable to new and existing services and is published in three volumes:

Part 1: Operational management

Part 2: Design considerations

Part 3: Validation and verification.

HTM 2030 details the functional output, i.e., what should be in place to prevent cross-contamination - in other words, relating to a clean area and a dirty area, where a clean endoscope will never come in contact with either a dirty endoscope or someone who has been handling a dirty endoscope. It does not prescribe exactly how this is to be done, but rather specifies the required performance. The reaction to this specification by the suppliers has been very interesting in that a number of different washer designs have resulted from interpreting this; some of which are modifications on an existing design, and some of which are genuinely innovative.

Only one supplier proposed a traditional top-opening style washer in order to comply with the HTM. The lid opens two ways - to the dirty side in order to load the dirty scopes, and to the clean side, once the cleaning cycle has been successfully completed for unloading of the clean endoscopes.

Several proposed the so-called 'pass-through' type washer, which sits in a sealed hole in the wall between dedicated dirty and clean rooms, which can only be loaded from the dirty side and unloaded from the clean side.

5 Health Technical Memoranda are developed in the context of the British National Health Service (NHS) and generally provides topical guidance to laboratories and hospitals. Sometimes a Health Technical Memorandum also provides best practice examples on organisational and managerial guidance in other areas like accountability, emergency plans, treatment of materials in medicinal contexts or staff training.

6 Source: Operational management. NHS Estates (1997).

- Foreword
- Introduction
- The role of standards in the public procurement process to promote innovation
- Legal aspects
- Standards for purchasers
- The STEPPIN steps to finding and using standards
- Practical cases

A further supplier proposed that the 'scope be loaded into a stainless steel box for cleaning, and that the scope then be stored in this box, which is effectively the 'clean area', and further proposed a washer to disinfect the outside of the box to guard against contamination, thereby in the supplier's opinion doing away with the need for expensive building alterations etc., to create a dedicated clean area.

There is still a lively debate over which of these solutions most effectively combats cross infection and thereby complies best with the HTM. Work is currently underway on an overall HTM for decontamination (HTM001) which may or may not change some of what has already been put in place. Regardless of the outcome, this example shows that referencing performance standards in public procurement can promote innovation.

Case 2: Practical case: German police using EN 1149

This case has already been used in chapter 4 of this handbook as an example of how to find the right standards. A German police department wanted to tender comfortable and protective police clothing. For this purpose they drew up a tender document. In this tender document they described a clear concept of what to buy and what performance was required. They wanted to buy flame-resistant and antistatic fabrics for the manufacturing of comfortable and protective police garments.

The police department searched for relevant existing standards and selected the appropriate standards. It seemed that the German police department was able to use EN 1149 Protective clothing - Electrostatic properties. This standard is performance driven describing performance requirements for measuring the dissipation of electrostatic charge from the surface of materials for garments.

By checking the following parts of the standard the German police department was able to get a clear view of the standard:

- the scope,
- the normative references,
- the provisions or requirements,
- the normative annexes.





Finally the German police department referenced the standard in their tender document as follows:

‘The police garment should be permanently antistatic and not be a direct conductor. The discharge of 10% of the original existing tension must be within < 0.5 second. In addition to antistatic properties no risk may exist when working with electrical equipment and cables either. Electrostatics must be in the proportion of EN 1149’.

EN 1149 gives a supplier the opportunity to innovate. Because of the performance character of the standard, a supplier has the possibility to offer different solutions of fabrics.

Normally, suppliers in this case would offer a branded material product, considered to be lightweight, flame-resistant, comfortable and complying EN 1149. Because of the same standard a company would also be able to offer a more innovative solution that is equivalent or superior to the brand product. The company could have been able to offer a solution from their own range of products.

But no company was able to offer an innovative solution, because the German police added, besides the performance-based standards, specific technical requirements in their tender document. In this technical requirement they ask for specific textile materials. This undermines the performance opportunities of EN 1149 and by that reduce the potential of using standards as well as the possibility for any company to offer innovative products.

Besides requiring a specific brand material in the technical requirements, no company was able to offer an innovative solution because the German police wanted to have fabrics in moss-green, dark green and dark blue, which are the colours of German police. The product that could be offered to fulfil the requirements is only available in a natural gold colour and the fibres cannot be dyed.

EN 1149 had allowed to offer an innovative solution to the German police department if, and only if, the police had not required a specific fabric composition and specific colours of the fabrics in their tender document.

This case illustrates a potential pitfall of mixing performance based requirements with specific prescriptive elements. In some situations such prescriptive elements of a specification have to be taken into account as in this case, where the colour of the garment was relevant. Some general advice to address similar problems are:

- If possible, keep prescriptive elements at a minimum and, rather, address performance based criteria.
- Involve potential tenderers early in the process to identify innovative solutions. Use standards as a reference point and minimum requirement basis.
- Use of prescriptive elements is less problematic if the early-user involvement revealed them as a minor issue.

Foreword

Introduction

The role of standards in the public procurement process to promote innovation

Legal aspects

Standards for purchasers

The STEPIN steps to finding and using standards

Practical cases

In selected cases the use of specific functional values can lead to innovative solutions as will be discussed in the next case.

Case 3: German police using ISO 105-B02

In Case study 2, we have already referred to the European invitation to tender for clothing of the German police department. It was noticed that the reference to (traditional) colours of the police force (green, blue) did have a restrictive impact on the functional standards used. The same applies in reference to the structure and composition of the fabric.

In this example, another aspect of police clothing will come up for discussion; the reference to certain marginal values concerning innumerable aspects of the police clothing.

To come to the innovative elements of an invitation to tender, it is important to give extra attention to these marginal values. The European invitation to tender of a German police department refers to a vast table in which values are being described.

The invitation to tender refers to ISO 105-B02 Textiles - tests for colour fastness - Part B02: Colour fastness to artificial light: Xenon arc fading lamp test dealing with change of colour intensity, the way the colour-tones of the fabric change by the influence of the light. The German police department asked for a colour fastness of 5. ISO 105-B02 uses as highest value 8 for this component, the value of 8 implying that the changes in colours will hardly be influenced by light (100% conservations of colour).

The key question is whether the value of 5 could give a sufficiently innovative solution to the tendering police department. Probably, this number had been determined on the basis of experience from the past.

In this case, the requirement for a value of 5 led to innovation. To reach a high value of colour fastness, the supplier had to use pre-dyed fibres. Pre-dyed fibres of a specific brand fabric are very extremely expensive. The same fabric dyed afterwards does not reach the value of 5.

One company was able to produce a fabric of the same composition of fibres with a colour fastness of 5 in a cheap manner. This company achieved this by blending expensive pre-dyed fibres and less costly undyed fibres. By using this production method, the colour of the fabric gave a better colour fastness result than by dyeing the product afterwards. From a technical viewpoint, the tenderer could receive tenders with a higher value of colour fastness (6, 7 or 8).

In this case we can see the benefits of using measurement standards in conjunction with an explicit value. In contrast to the aforementioned case a company could introduce an innovation by using a different production





method. By using an explicit measurement method the procurer could secure that the minimum quality needed can be guaranteed and eventually be validated.

- Measurement standards can be used together with quality standards.
- Measurement standards can secure minimum quality and reduce risk for the procurer, as exact validation is possible if required.
- Generally, referencing measurement standards is especially beneficial in cases of technical elements that have to be compatible to others like nuts have to be compatible to bolts.
- With very few exceptions⁷, measurement standards are competitively neutral and therefore do not influence competition in the procurement process in a negative way.
- Measurement standards allow for independent testing in case a procurement process has been divided into smaller lots but the procured products have later to interact with each other or existing technical infrastructures.

Case 4: The use of standardised functional specifications for traffic management systems in Germany

The 1980's saw the roll out of a traffic management system in Germany. Equipment was supplied by a number of different manufacturers each using its own technical standards. This led to incompatible systems and vendor lock-in on the side of the public authorities.

To come to an open, clear, tendering and system operation it was decided to prepare technical guidelines and standards for the functions and interfaces of the roadside stations. The first complete version of the standard called Technical Specification for Roadside Stations (TLS) was issued in 1993 and its use was made mandatory for roadside traffic control equipment of the whole federal road network.

The use of TLS in the public tenders had the following effects:

- Room for real competition in the market was created, resulting in a price drop of 50% between '90 and now.
- TLS had given the manufacturers a kind of 'guarantee' that new products could be developed. Indeed new products have been developed.
- New manufacturers entered the market place.

⁷ In some special cases measurement methods are not competitively neutral if the technology that requires testing is very costly to obtain and the technical field in question is at an early stage. An example might be measurement methods in the emerging field of nanotechnology.

- Foreword
- Introduction
- The role of standards in the public procurement process to promote innovation
- Legal aspects
- Standards for purchasers
- The STEPIN steps to finding and using standards
- Practical cases

The manufacturers were heavily involved from the start of the specification process. This also lowered their risks in the development of products.

There was also less risk on the procurement side. The standard has made procurement less complicated, because references can be made to the standard. The preparation of the tender documents was relatively fast.

In general, only the TLS specifications were referred to. The hardware was still deemed to be open source. However the look and feel of the driver interfaces are defined in the specifications and their use was made mandatory.

The use of TLS has resulted in faster implementation because the products are now available off the shelf.

Although it was not developed by a recognized standards body, TLS can now be regarded as being recognised, since the standard can be used and is accepted by all potential suppliers. ASFINAG in Austria is also using TLS and Germany and Austria have started to cooperate in testing and certification. Slovakia is considering doing the same. BAST, the German Federal Highway Research Institute, has been asked to take care of the certification process.

The present TLS are only available in German, the next version will also be available in English. This next version will be a joint German-Austrian standard that will include some specific Austrian features. Representatives from the ASFINAG participate as official members in the working group.

For the manufacturers these developments led to an enlarged market for their TLS compliant products and the purchasers of the road operators in the future can expect a wider variety of innovative TLS products at lower costs.

To see whether the claimed effects on innovation were also perceived in a similar way by the market, three industry representatives who have been involved in the creation of TLS were interviewed. They commented as follows:

Influence on innovation

Although their companies are always innovating their products, the introduction of TLS did stimulate them to innovate. They had problems with the older standards and for many aspects there were no standards and regulations at all.

Being part of the standardisation process enabled them to develop new products earlier than others. One of the respondents said that they are always innovating their products and that in fact they 'innovated' TLS. In general the main influence of TLS was on the innovation of communication, by setting interoperability standards.





Type of innovation

In general this innovation was aimed at the development of new technology and improvement of the manufacturing process. The new interoperability standards made it necessary to change communication software and middle ware. New communication hardware was developed that made it possible and cheaper to exchange more data. This development also made it possible to include more industry standard components, and thereby lowering the costs. Now the standard has been set, the initial innovation wave has passed and 'normal' innovation is taking place. However TLS made it easy to add new products because of the standard interfaces.

Competition

The acquisition of new projects has become much easier with TLS. Prospects don't have to be convinced any longer about their proprietary standards. Selling into the other Bundesländer and other European countries has also become much easier. Their marketplace has indeed been enlarged and some of the existing manufacturers became new entrants in some of the older markets.

There were some other new entrants in the market, mainly concentrating on detection systems. Some of the existing TLS suppliers were not active in the TLS market but are active now.

TLS based solutions are also offered in situations where no standards are specified and has proven to be an attractive proposition for public procurers in non-TLS countries. This reassured the customers that they could always go to another supplier or integrate products from other suppliers.

Selling standardised solutions based on TLS has proven to be effective in competitive markets.

Prices

Not all agree with the observation that the prices have dropped because of TLS.

They say that there are two main reasons for this. The first reason is that prices of electronic equipment and components dropped considerably (estimated at 30%) over the past years and this is reflected in the cost of its systems. The second reason is that the size of tenders has increased, projects, creating more competition. However most of these tenders would not have been possible without TLS so there is at least a considerable side effect. In the past projects were based on specific solutions, which were expensive.

Effect on sales volume

One (very big) manufacturer said that they sold some projects because they can now offer TLS in TLS countries. In other (non-TLS) countries they have sold their solutions because they are based on an open standard and no longer on their specific proprietary solutions. The sales of its products in the German market has been strongly influenced by sporting events. A lot of its budget was spent on information panels. In general they said it has had a positive effect on their sales volume and that the market has been opened up. But there is now also more competition.

- Foreword
- Introduction
- The role of standards in the public procurement process to promote innovation
- Legal aspects
- Standards for purchasers
- The STEPPI steps to finding and using standards
- Practical cases

Involvement in the development of TLS

All took part in the standardisation process. One was the first industry partner, another was one of the other initiators.

TLS in tenders

All are confronted with TLS quite often. In 99% of the German tenders for roadside equipment TLS is specified. The use abroad is also increasing (Switzerland, Austria, Slovenia, Slovakia).

Other standards with the same effect.

Some other standard specifications have been built on top of TLS, like for instance those for tunnel equipment. They are also helpful, and suggesting directions on how to develop products.

Other standards are MARZ for traffic control (sub)systems. The Dutch MTM Road side Signalling and Monitoring platform specifications are also being used as a kind of standard in the Scandinavian countries.

Conclusions

- TLS has stimulated the innovation of Roadside systems in Germany. Many stakeholders did put a lot of time and resources into the development, because all were convinced that they couldn't do without it.
- TLS stimulated competition. The use of TLS is now mandatory for all Bundesländer. This has opened up the German market for TLS suppliers who, in the past, were "confined" to smaller regions. However they now are confronted with more competition. And because they have become more competitive they are now more successful also in other countries.
- TLS also became more competitive because prices did go down, due to the fact that the new suppliers can offer standardised systems containing more industry standard components than before.
- TLS offers the customer the assurance that they can always go to another supplier or integrate products from other suppliers.
- Because of these benefits more countries are now considering the use of TLS.





Case 5: Procurement in construction for high environmental quality

The Conseil Général du Loiret in France decided to initiate procurement for the construction of an office building. This building should be the very first public building obtaining both the 'High Environmental Quality (HEQ) approach - tertiary building' and the Effinergie Low Energy Building label (LEB). The HEQ approach certification and LEB labelling are integrated in some AFNOR standards but are managed by other organisations⁸. In the framework of the HEQ approach, AFNOR must give an assent on the method adopted. Those labels and certification rely mainly on a methodology of operation management and an objective to be achieved.

The Conseil Général du Loiret launched a design contest to select the main contractor. The tender documents contained among others a HEQ programme which explained the approach and specified the levels of energy performances. The early definition of the foreseen approach, based on levels of performance, gave a wide scope of initiative to the bidder for innovative solutions.

In this programme, the approach was organised in an operational management system (SMO) and objectives were listed in 14 targets.

Eco-construction

Target n°1: smooth relationship of the buildings with their closer environment

Target n°2: integrated choice of procedures and construction products

Eco management

Target n°3: low pollution construction site

Target n°4: energy management

Target n°5: water management

Target n°6: rubbish management

Target n°7: maintenance management

Comfort

Target n°8: hygrothermal comfort

Target n°9: acoustic comfort

Target n°10: visual comfort

Target n°11: olfactory comfort

Health

Target n°12: sanitary conditions

Target n°13: air quality

Target n°14: water quality



⁸ High Environmental Quality certification is managed by Association HQE ; Low Energy Building Label is delivered by Certivea

The operational management system is following ISO 9001, aiming at ensuring the good management of the project.

Targets were detailed with technical specification or standards. For instance, target n°2 offered a priority to building products having a label listed in the document: Blue Angel, European ecolabel, NF environment, PEFC, FSC, GUT...It should be remarked that it was no obligation to use a particular ecolabel. The prime contractor was free to choose one of those labels or none. It gave an indication about the environmental quality level foreseen but did not lock the bidder into a compulsory labelling.

In the same target, the measurement of impact indicators had to correspond to the NF P01-010 standard. The standard had been chosen to guarantee the reliability of measurement. The prime contractor knew how their performance would be assessed.

The programme document indicated for each target the foreseen specificities but also a performance level to attain: basic, efficient or high. The prime contractor proposed potentially innovative solutions for reaching those objectives. In establishing its approach on environmental performances, notably with labels and standards, the contracting authority gave a clear idea of the quality level that it wanted to reach, without locking the bidder in a predefined choice of the materials to be used. It then left the door open to innovation.

This case shows the benefit of the use of standards before procurement. Using the method of design contests can help to shape later tenders according to the market situation in the market and the range of potential products. The scope towards standards and voluntary use of certificates and labels also exemplifies that the use of standards need not be mandatory in a tender, under certain circumstances, but rather standards are used as a signal to potential tenderers. In this case the use of standards was "rewarded" by a higher preference for such tender.

This option can lead to high competition among potential tenderers. Still, the procurer should consider ex-ante if he is endowed with the necessary resources to evaluate the solutions not conforming to a standard, certificate or label. The use of this method is more recommended when the financial volume of a tender is very large and the costs of evaluation are comparably low.

Still, if the need for technical compatibilities is involved, e.g. in procuring large amounts of expensive infrastructure networks that have a long life-cycle, the procurer should be cautious to use such an approach in order to minimize the threat of incompatibilities.





ANNEX: Case studies for chapter 4, legal aspects E





Annex - Case studies for Chapter 4, Legal Aspects E

CJ, 22 September 1988, 45/87, Dundalk

Dundalk Urban District Council started a tendering procedure for awarding a contract for the construction of a water-main. In the contract documents it included a specification requesting for the asbestos cement pressure pipes to be certified as complying with an Irish Standard. An Irish undertaking had submitted a tender which provided for the use of pipes manufactured by a Spanish undertaking, not certified according to the Irish standard, but compliant with an ISO standard (160:1980). The Irish authorities communicated to the Irish undertaking that its tender would not be accepted.

Consequently, the Commission brought an action against Ireland for breaching the free movement of goods obligation (art.28 EC) and Directive 71/305/EEC concerning the award of public works contracts.

Firstly, the ECJ rejected the application for infringement of the procurement directive 71/305/EEC, as the type of contract in question fell outside its scope of application. The fact that the Irish government had published the contract notice in the Official Journal, either by mistake, or because they intended, initially, to ask a contribution from the community in the financing of the work, did not bring the contract within the coverage of the directive.

Secondly, the ECJ noticed that the reference to the Irish standard in the tender specifications may cause economic operators who produced or utilized equivalent pipes but not certified as complying with Irish standards, to refrain from tendering. Furthermore, the fact that only one Irish undertaking had been certified to apply the Irish Standard strengthened the conclusion that this practice had a restrictive effect on intra-community trade.

The ECJ did not accept the justification of the Irish government related to technical difficulties in case other pipes were procured, because the object of the present case was the refusal of the Irish authorities to verify whether pipes certified as complying with other standards satisfied the tender requirements.

Therefore, by stipulating that the asbestos cement pressure pipes must be certified as complying with the Irish Standard, Ireland has breached its obligations under Article 28 of the EC Treaty.

ECJ, 3 December 2001, C-59/00 Bent Moustén Vestergaard

The Danish public housing body Spøttrup Boligselskab started an open procurement procedure for the construction of twenty social houses, with a value below the European threshold. For the carpentry lot for each site, the contract documents contained a clause requesting that the windows and doors of the houses had to be of a certain mark. Mr Vestergaard, a master carpenter, submitted the lowest tenders for two of the carpentry lots and was

awarded the contracts. His offer was though based on a different make than the one requested in the contract clause. In the end he used the make requested in the contract, which conducted to additional costs. He brought an action before a national court for the recovery of his additional costs.

In this judgment, the national court asked the ECJ whether a contracting authority acts contrary to the fundamental rules of the EC Treaty by including a clause requiring the use of a product of a specified make in a public works contract which falls outside the scope of application of the procurement directives, without including the words 'or equivalent'.

The ECJ started by underlining that contracts with a value below the European thresholds still need to comply with the fundamental rules of the Treaty, among which the free movement of goods (art.28 EC). The Court subsequently ruled that the failure to add the words or equivalent after the designation in the contract documents of a particular product may have a restrictive effect on intra-Community trade, contrary to Article 28 of the Treaty.

Therefore, article 28 EC precludes a contracting authority from including in the contract documents a clause requiring the use of a product of a specified make, without adding the words or equivalent.

ECJ, 14 June 2007, C-06/05, Medipac-Kazantzidis AE

The Greek hospital Venizelio - Pananio (further: the hospital) issued a public invitation to tender for the supply of surgical sutures with a value of € 131.500, to be granted on the basis of the lowest price as the award criterion. In the notice it was required that these be compliant with the European Pharmacopoeia monograph (which is considered by the new approach Directive 93/42/EEC on medical devices as equivalent to the harmonized standard developed on the basis of this directive) and bearing the CE-marking. Nine companies reacted to the tender, among which was Medipac.

In this judgment a national Greek court posed the question whether the hospital can reject a CE marked product on the grounds of technical inadequacy (surgeons of the hospital considered that suture types provided by Medipac closed prematurely, did not hold sufficiently and that the needles frequently broke or twisted) and, in case the ECJ decided the hospital is obliged to follow the safeguard procedure of the Directive 93/42/EEC, whether the outcome of this procedure is mandatory for the hospital.

The ECJ started by pointing out that although the contract in question falls outside the scope of application of the Procurement Directives, it still needs to comply with the general principles of the Community Treaty (such as equal treatment and transparency). Subsequently, the ECJ ruled that the CA may not decide on its own that a certified product, according to a new approach directive (therefore CE marked), and compliant with a harmonized standard poses risks to public health. The CA needs to suspend the procurement procedure and await the outcome of the safeguard procedure provided for in art.8 and 18 of Directive 93/42 (report to the national health





authority the inadequacy of the materials) and has to abide by the decision taken by the Commission following the procedure.

Nevertheless, the hospital would be entitled to rely on a rule of reason exception on the basis of the EC treaty itself. In accordance, it may procure the medical devices necessary for its continuous operation, subject to the proportionality principle.

ECJ, 7 June 2007, C-254/05, Commission against the Kingdom of Belgium

In this case, the European Commission started an action against Belgium, for not fulfilling its obligations under art.28 EC on the free movement of goods. Belgium had adopted national legislation as well as the administrative practice of requesting fire detection devices to comply with the Belgian standard S21-100, subject to certification by the Belgian Organization for Security Certification (BOSEC). Moreover, BOSEC did not recognize tests already carried out in other member states and imposed disproportional costs and delays on economic operators.

The Commission considered that the Belgian legislation and administrative practice restricted the free movement of fire detection devices which were lawfully manufactured or marketed in another member state and which guaranteed equivalent level of protection to the ones complying with the Belgian standards. The Commission was mostly worried about the level of detail of the requirements imposed by the Belgian standard on some components of the fire detection devices, which implied that the economic operators would need to modify their products in order to market them on the Belgian market. The result was that standard NBN S21 100 operated like a binding standard for producers who wish to market their fire detection systems with point detectors without the CE marking on the Belgian market.

The goods concerned by the present case, namely automatic fire detection systems with point detectors were not harmonized at European level at the moment of the dispute, but harmonization was in course, within the framework of Directive 89/106/EEC relating to construction products, while harmonized European standards (EN-54), developed on the basis of a mandate emanating from the Directive, covered only some components of fire detection devices. Therefore, the mutual recognition principle applied to the products in question, according to which Belgium could not refuse fire detection devices which were lawfully manufactured or marketed in another member state and which guaranteed equivalent levels of protection.

The ECJ pointed out that the Belgian standard was not a mere repetition of the harmonized European standard, as there was no complete harmonization at European level for fire detection devices. Subsequently, the ECJ agreed with the Commission that the Belgian standard had the effect of forcing economic operators of other Member States to adapt their apparatus and equipment to some specific requirements and to bear the additional costs associated with such adaptation, if they wanted to enter the Belgian market. Therefore, it constituted a measure having a restrictive effect on imports, prohibited by Article 28 EC. The ECJ further rejected the public-interest

justification invoking Belgium (based on Article 30 EC) due to the fact that no concrete evidence had been provided to support this assertion. Regarding the certification obligation the ECJ concluded that it also constituted an obstacle to the free movement of goods and that it was disproportionate.

The ECJ concluded that Belgium has failed to fulfil its obligations under Article 28 EC.

ECJ, 3 March 2005, Joined Cases C-21/03 and C-34/03 Fabricom SA v État belge

Before the Belgian Conseil d'état, Fabricom sought annulment of some Belgian legal provisions which precluded a person who had carried out preparatory work in connection with a public contract or an undertaking connected to such a person, from participating in that contract. The national Belgian court made a reference to the ECJ concerning the conformity of this provision with the old Procurement Directives 98/38 the procurement procedures of entities operating in the water, energy, transport and telecommunications sectors and Directive 92/13 coordinating the laws, regulations and administrative provisions relating to the application of Community rules on the procurement procedures of entities operating in the water, energy, transport and telecommunications sectors.

The ECJ started by pointing out that the principle of equal treatment lies at the very heart of the public procurement directives, which are intended in particular to promote the effective competition in the fields to which they apply. The Court subsequently remarked that a person who has participated in certain preparatory works may be at an advantage when formulating his tender, but that this person should nevertheless be given the opportunity to demonstrate that in his particular case no risks for competition arise. In conclusion, such a provision as the Belgian one goes beyond what is necessary to attain the objective of equal treatment for all tenderers and therefore it is contrary to the Community rules. Moreover, the ECJ decided that a contracting authority may not refuse, up to the end of the procurement procedure, to allow an undertaking connected with any person who carried out preparatory work in connection with the public contract, from participating in the procedure or submitting an offer, when the undertaking states that it has not thereby obtained an unfair advantage capable of distorting competition.

