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Legal Aspects of Standardization and Certification of Information Technology and Telecommunications: An Overview

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1. Introduction

The information technology and telecommunications (IT&T) industry is presently growing out of its infancy towards a certain maturity. At present the development of this industry and its marketplace has come up to a level where standardization ² has become of vital importance. One of the major reasons is that users in a multi-vendor environment require compatibility and interoperability of IT&T products. Standardization has become an issue of interest to both users and suppliers.

In Europe, commitment to standardization is vital in creating an internal market. Without this internal market the European (IT&T) industry, of strategic importance to the EC, will not be able to survive in the struggle with Japan and the United States.

Large buyers (governments, industry) are able to put pressure on the suppliers to conform to standards³. Gradually, suppliers have taken a more serious approach to the standardization process and have realised that the former 'lock-in' effect of proprietary products becomes a burden that locks out the supplier from a large part of the market⁴. As Brock observes, in the IT&T-industry standardization generally helps those firms trying to expand their marketshare and hurts those firms trying to defend their market against others⁵. For governments, standardization of IT&T-products and services is an important instrument in regulating (international) trade and industry⁶.

This article intends to give an overview of a number of legal issues regarding standardization and certification of information technology and telecommunications. There will be a focus on the developments in the EC. In most cases this will not imply a significant limitation of the scope of this article since IT&Tdevelopments have the same revolutionary character all over the world and generally give rise to the same legal questions.

In the next paragraphs first a brief overview will be given of the main characteristics of the process

of IT&T-standardization and certification (organizations involved, interests, backgrounds, types of standards, figures). On the basis thereof an explorative treatment will be given of the legal status of IT&T-standards, the protection of standards documents, and the impact of standardization and certification on liability and competition.

Standards

The different meanings of the word 'standard' can be distinguished in several ways, for instance to origin, status and field of application. From a legal perspective a distinction between formal standards and de facto standards⁷ may be useful.

Formal standards are those that have been developed by national and international standardization institutes and organizations. The ISO's definition could be taken as an example: "Document established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at achievement of the optimum degree of order in a given context". Formal standards are open in that participation in their development is open to all and public in that the results of the standardization process are publicly available.

A de facto standard is not developed by an official standards body but is set in the market place. De facto standards can differ substantially in origin, nature and status. They can be closed in the sense that only one organization or a closed group of organizations can define or update them via a closed process. The latter applies for instance to technical specifications that have initially been developed by a supplier to support his particular product range or marketing strategy and in the course of time have become more widely used, also by other suppliers seeking a share of the business. A de facto standard that is closed can be public but also non-public, in the latter case the full specifications are available only to the parties that participate in the body that originated the standard. When de facto standards are open, the results will also be available to all third parties (public).

Further a distinction can be made between standards that are binding (by law, regulation or contract) or non-binding.

2. The process of standardization and certification⁸

2.1 Standardization

The process of standardization of IT&T is to the outside observer, impenetrable and complex. Many official and unofficial organizations are involved in the process of drafting and setting up standards, and in influencing this process to the benefit of (groups of) industries, governments and users.

Europe

On a European level three most important standards institutions in the field of IT&T are: CEN, CENELEC and ETSI.

CEN, the European Committee for Standardization, is an association of European national standards bodies from the EC and the EFTA countries. It covers standardization activities on a wide range of topics. CENELEC, the European Committee for Electro-technical Standardization, is an association of 18 national electrotechnical committees from EC and EFTA countries. This committee covers the standardization activities in the electro-technical and electronic sectors.

CEN and CENELEC, who have established a close cooperation, are major players in the European standardization process and have the task of producing European standards in the field of

information technology.

The basic European standard is the EN, published by CEN or CENELEC and applying to EEC and EFTA countries. It is mandatory in that it must be adopted as a national standard and any conflicting national standards must be withdrawn in the field of information technology. When the goal of an EN cannot be reached, CEN and CENELEC issue HD's (Harmonization Documents) or ENV's (European pre-standard). An HD allows some national deviations to exist temporarily. It does not have to be converted into a national standard, but conflicting national standards must be withdrawn. An ENV is issued when there is a need for interim common specifications before the time is right for an EN. ENV's need not be implemented in each country and conflicting national standards can remain in place. Within three years an ENV must be converted into an EN, be reissued as an ENV, or be withdrawn.

Remarkably, European standards do not exist in their own right but only obtain formal status when the national standardization bodies transpose their content as one or more national standards and withdraw any conflicting provisions.

In the field of telecommunications, standardization activities were traditionally undertaken within the framework of CEPT, the European Conference of Posts and Telecommunications, in which the national PTT's in Europe cooperate. In 1988, a new European Telecommunications Standards Institute (ETSI) was founded by CEPT. This was in reaction to the suggestion of the European Commission in its Green Paper on Telecommunications that such an institute should be founded. In ETSI five categories of interests groups participate, including: administrations and national standards organizations, public network operators, manufacturers, users, private service providers and research bodies. The European Commission and the secretariat of the EFTA are also represented in ETSI.

Presently, ETSI has well over 200 members. The founding of ETSI represented a significant change in the telecommunications standards making process, so far a matter of only the telecommunications administrations without access for manufacturers and users.

ETSI produces European telecom standards, either in definitive form (ETS) or in provisional form (I-ETS) i.e. requiring further development. ETS's can be recognized as European standards (EN's) when three criteria are met: standstill, transparent procedures, and implementation of the standard at national level. The procedure followed for the adoption of an ETS or an I-ETS is the same as that required for EN and ENV, it involves a public enquiry and a weighted national voting⁹.

Some ETS's can become mandatory for the telecommunications organizations and will then be called 'NETS' (Normes europe ennes de telecommunications)¹⁰. These standards are mandatory for type approval of terminals attached to public telecommunication networks in the EEC and five EFTA-countries, as agreed upon by 17 countries in a Memorandum of Understanding in November 1985. A Technical Recommendations Application Committee (TRAC) was formed to decide which ETS's would become NETS's and as such mandatory¹¹.

Coordination

Coordination in the area of information technology and telecommunications is essential for ensuring free data exchange in information systems.

The Information Technology Steering Committee (ITSTC) has been set up for the planning and steering of European IT&T-standardization. ITSTC consultations take place between CEN, CENELEC, ETSI and the European Commission and EFTA (the latter two as observers). These consultations concern the allocation of standardization topics in the border zone between information technology and telecommunications. In a Joint Presidents Group, CEN, CENELEC and ETSI discuss general policy matters affecting the three organizations. More detailed issues are dealt with in the

ITSTC.

To ensure coordination in the overlap between broadcasting and (other forms of) telecommunications, ETSI established a Joint Committee with the European Broadcasting Union (EBU).

Other international organizations

On a global level the ISO, IEC and CCITT/CCIR are the major organizations in IT&T-standardization. In the field of IT, the International Organization for Standardization (ISO), a non-treaty organization with members from over 80 countries, is the largest organization. The members are national standards institutions. Within the ISO more than 150 Technical Committees are active in drafting international standards, including in the IT-field. The International Electrotechnical Commission (IEC) is in structure very similar to the ISO. The IEC has fewer members and they come mainly from the industrialized countries. The IEC works in the field of electrical engineering and electronics. Since 1987, the Joint Technical Committee I (JTC1) formed by IEC and ISO is the central body for IT-standards. Where applications of technology are outside the scope of this committee, the work is continued to be handled within e.g. ISO. Other international standards bodies, as well as the Commission of the European Communities, are non-voting participants.

In the field of telecommunications, the International Telegraph and Telephone Consultative Committee (CCITT) and the Comité Consultatif International pour les Radiocommunications (CCIR) of the International Telecommunications Union (ITU) is the major international body for standardization activities.

Further players

Many other organizations play a role in IT&T-standardization within or next to the formal organizations as described above.

On a national level, national standards institutions (like BSI (UK), DIN (Germany), AFNOR (France), ANSI (USA), etc.) directly participate in the work of the International Organization for Standardization (ISO). Furthermore a variety of (unofficial) organizations in various forms and with various objectives are active on a national or regional level. These include the Standards Promotion and Application Group (SPAG), consisting of 12 major IT companies based in Europe, the European Computer Manufacturers' Association (ECMA), the European MAP Users' Group (EMUG), OSITOP (doing the same work as EMUG, in the field of the Technical and Office Protocol), XIOPEN (Unix) and the Confederation of European Computer Users' Association (CECUA). In 1988 the European Workshop for Open Systems (EWOS) was established within the CEN/CENELEC framework¹². Other 'open' initiatives include the Open Software Foundation (OSF), the Corporation for Open Systems (COS) (United States) and the Promotion of Open Systems Interconnection (POSI)(Japan).

As a trend, much of the work of technical development and consensus-building has shifted out of the formal standardization bodies into less official bodies which in general can work faster and more effectively, due to the lack of complex procedures. For instance CEN and CENELEC have over the last years frequently used the services of what are called "Associated Standardization Bodies" (ASB's). As an example, EWOS has been given the Status of ASB. The documents produced within an ASB have only to be submitted for public enquiry and voting to CEN or CENELEC before becoming European standards.

As mentioned in the introduction, the IT&T-standardization process is complex and going through a period of rapid change under influence of new policies, new technologies, changing markets etc. Only a small number of experts have an inside view on what might be called 'a standardization jungle'.

The role of governments in IT&T standardization is complex but interesting. Four possible (and often conflicting) roles of the government in the international standards process can be distinguished: standardization authority, anti-trust authority, promotion of indigenous industry, user and procurer¹³. A fundamental question is to what extent governments should be involved in IT&T standardization. Due to the strategic importance of information technology in the fields of economy, politics, security etc., this technology seems to be a special case, justifying (in the view of governments) a narrow involvement in the development of standards. On different levels, governmental institutions have taken initiatives to influence the standardization process, either directly (e.g. the EC-initiatives in the field of official standardization, the recent agreement between the EC Member State governments on a HDTV-standard, the X / OPEN decision in the field of competition law that facilitates the developments of these standards. Such guarantee can be obtained from conformance testing and certification. Conformance testing is a technical task of testing products or processes in order to establish whether or not they meet the requirements defined in a standard. Such tests can be performed by the manufacturer or by an independent third party. Certification is the administrative task (to be performed by an entity hierarchically independent from the persons or entities that performed tests) of awarding a certificate if the test is satisfied and the test has been performed adequately (right procedures followed, test laboratory adequately competent and impartial). The most important methods of certification are self-certification by manufacturers (manufacturers declaration or first-party certification) and third-party certification, in which an independent third party certifies the results of a conformity test.

Certification can be a useful instrument in regulating the production of products that have to fulfil certain mandatory conditions, for example related to the protection of environment, health, or safeguarding the integrity of a telecommunication infrastructure (cf. terminal equipment).

Conformance testing and certification is aimed at ensuring that the complex standards in the field of IT&T are implemented without technical divergencies that could lead to non-interoperability. The guarantee that is provided by conformance testing and certification in this respect is viewed by the European Commission as crucial to the expanding open systems market since it builds up the customer's confidence in standards products¹⁴. Furthermore it will for manufacturers have the advantage of adding credibility to the products that have been tested and certified, and providers of services and network operators can be confident that the networks will not be harmed by the installment of incorrect equipment¹⁵.

In order to develop a framework for the provision of conformance testing services in Europe, the EC Commission has launched the CTS-program (Conformance Testing services) in 1985. Underlying principles, amongst other things, are: an internationally standardized test, mutual recognition of test results, competition in the provision of tests in order to avoid potential problems of partiality, unreasonable pricing or excessive waiting times. On 25 April 1990 the EC and EFTA have signed with CEN and CENELEC a Memorandum of Understanding on building a European Organization for Testing and Certification (EOTC)¹⁶. Task of the EOTC will be to develop a European system for testing and certification that will meet the requirements for both mandatory and voluntary testing under the 'Global Approach' as adopted by the European Commission in 1989. The basis of this approach is a system of mutual recognition of testing and certification activities by the Member States¹⁷. In directives the EC will indicate for which products and/or services testing is mandatory (if health, safety or environment could be affected) and prescribes the method of testing to be followed (manufacturer's declaration, third party test). The Commission has proposed that the certification activities of CEN and CENELEC will be transferred to EOTC¹⁸.

In the field of IT, the European Committee for IT Testing and Certification (ECITC), will function as a sectoral committee under the EOTC. Within ECITC, a number of recognition arrangements has been established under which testlaboratories and certification institutes from a number of European countries cooperate and mutually recognize each others activities.

3. Legal status of IT&T standards

In a increasing technocratic society, the question of the legal status of technical standards is one of importance. In our information society, more and more technical standards are used in formulating laws, regulations, decisions etc. on different governmental levels. Also standards are becoming more important in drafting contractual obligations and interpreting the meaning thereof, whether or not in the courtroom.

This development is not a new one nor exclusive to information technology and telecommunications.

However the dominant role of IT&T in our daily lives, both business as private, and our dependence thereof, justify a more detailed study into the role of IT&T-standards as administrative and legal instrument.

Standards can get legal relevance in various ways. As regards the use of standards in legislation, *Snijders*¹⁹ distinguishes between implicit and explicit relevance of standards. A standard has an explicit relevance if in a certain form of legislation, the content of the standard is binding upon one or more subjects of rights. An explicit relevance can be established by means of incorporation (the content of the standard is integrally incorporated in a legal document) or by reference. Various ways of reference to standard in a legal document can be distinguished: fixed reference (reference is made to a specific standard identified in the legal document by name, number, edition and date), dynamic reference (only name and number of the standard are mentioned, without edition and date) and open reference (only reference to (unspecified) standards in a certain area is made, e.g. to 'terminal equipment standards as harmonized by the EC'). The legal relevance of standards in regulations or decisions in private law relations can be qualified in the same way as set out above.

In contracts, standards can play an important role in specifying the subject of the contract. Incomplete or ambiguous formulations thereof are a major source of problems in the execution of computer contracts. In most cases a fixed reference seems the proper method to follow in drafting computer contracts.

As regards the role of standards in legislation, a very important question is to what extent the use of technical standards in legislation means an erosion of the democratic control over the contents of legislation? More specifically this leads to the question of the extent to which a delegation of legislative authority as a consequence of the use of standards in legislation is admissible. While the use of fixed references does not imply a transfer of legislative authority, the question becomes very relevant when a dynamic or open reference to standards is used in legislation. Important factors in answering this question will be: the type of standard, the topic of standardization (critical to health and safety ?), the process of standardization (democratic control ?), recognizability and intelligibility of the standard involved²⁰.

Standardization can affect the interests of a wide variety of groups: industry, users, consumers, workers, public authorities. As regards the European standardization activities, at present specifically workers and consumers are not directly represented in the work and the governing bodies of CEN, CENELEC and ETSI. They can only influence the standardization process through their representation in the national standardization bodies. In view of, for instance, the importance of European standardization in the field of safety issues, it is clear that the participation and representation of consumers and workers is essential for a proper legitimation of these activities.

*Storme*²¹ expresses a strong opinion on this matter when he observes that due to an increasing dominance of technology in our society, more and more technical norms become guiding and

threaten to be elevated to binding legal norms. He draws the conclusion that the law should not limit itself to the reception of technical standards, but should retake its regulating function.

Clearly the question of the legal status of IT&T standards is of importance due to the impact of this technology on our society and deserves further study. For a more detailed evaluation, an analysis of the nature of the process of IT&T standardization and the parties involved (influence of users, open or closed, the extent of government control etc.) seems a prerequisite.

4. Protection of standards documents and certification marks

4.1. Standards documents

As 'a standard', elements of products or processes that are protected by any intellectual property right cannot become subject to official standards. The application of such standards would otherwise be monopolized. Nevertheless, more and more technologies protected by especially patents are encountered in standardization activities. In the field of telecommunications it is even now considered almost impossible to make a technical standard for an essential interface without involving an extensive number of patents²². This gives rise to a number of problems²³:

- terms of licences: when there are a number of patentholders involved, and they are willing to grant a license on 'fair and reasonable terms', the cumulative costs of providing all these patentholders a 'fair and reasonable' return may lead to products to that standard being quite uncompetitive;
- indemnification clauses: when due to government regulations the application of certain standards is mandatory, which is the case in a growing number of cases, then the commercial risk of complying with for example telecommunications regulations, becomes significant. The supplier has in such cases no leverage to deal with the patentholder since he is not allowed to use equivalent technology that provides the same overall objectives as the patented technology. Contractual clauses, usually part of standard supplier contracts, become invalid due to the mandatory imposition of standards;
- revealing the existence of patents: in the telecommunications standards activities there are presently around 18 months between a patent being filed and a search revealing its existence. This enhances the risk that a standardization body is unaware of the intellectual property rights complications that exists when adopting a standard. Even then it will, however, due to the expansion in the average numbers of patents directly or indirectly effected by a standard, not be easy to quickly determine the patents position once search reports are available;
- geographical limitations: a license for application of a certain standard in the European market still enables only a geographically limited application of the standard. When the EC wishes its standards to be adopted in other parts of the world as well, there needs to be no intellectual property rights barriers thereto. Otherwise European standards may become imprisoned in Europe²⁴

Official standards are made public by a standardization body in the form of a standards document. In most cases this body will also be the copyright owner of the standards document and as such can control the exploitation thereof²⁵. Also publication of such a document can take place under a licence from the copyright owner. An example of the latter is the publication of (translated) ISO-standards by national standard institutions that are member of the ISO, under an explicit licence by the ISO²⁶. As regards the European standardization bodies, the copyright of ETS (European telecommunication standards) are vested in ETSI. Within CEN and CENELEC however each of the national members holds the copyrights of the European standards as transposed into national standards²⁷.

The issue of copyrights in standards documents is of great importance for financing the (expensive)

standardization work. The revenues from the sale of standards documents are the most important source of income for most national standardization bodies.

With regard to de facto standards that are laid down in a standards document that is publicly available, the situation is not very different. In practice however, it is common for de facto standards not to be published in a (publicly available) standards document. Furthermore de facto standards will in most cases be subject to intellectual property rights, usually patents. This gives rise to many interesting questions including:

- the analysis of a standard: to what extent it is permissible to analyze a standard that is incorporated in a product? A distinction could be made as to several forms of intellectual property right protection (copyright, patents, trade secrets). Amongst other things the reverse engineering issue here plays a role;
- the application of a standard: what limitations do intellectual property rights (or tort law in general) put on following a de facto standard?

These two questions invite to further study. Whatever the outcome of such work, clearly a balance will have to be found between protection and innovation. While a strong protection on the one hand will encourage innovative research, it will on the other hand hinder the development of compatible products and inventions 'around the standard' which will curb innovation. The content of such equilibrium has been discussed very vividly in relation to the recent EC Directive on software protection.

As regards the role of official standards in innovation it can be concluded that in the present stage of development of IT&T, such standards are essential to innovation since a new product can only be successful when it can communicate with products that are on the market already. More and more these products, especially in the field of telecommunications, are based on official standards. In such a way these standards act as channels that to some extent curb innovation but in a wider context advance innovation²⁸. De facto standards, especially when strongly protected by intellectual property rights, are less suited to fulfilling such a role.

4.2 Certification marks

The protection of certification marks will primarily be based on trade mark legislation, although also unfair competition law might also be of importance. A certification mark could be protected as either an individual or a collective trademark, depending on the structure of the certification process and the authority issuing the certification mark. The use of such marks by suppliers of certified products would have to be dealt with in contracts. In practice a number of certification marks are often marked on a product; each of the organizations involved (national certification authorities, certification institutes etc.) issues its own mark.

5. Impact on liability

Liability in relation to standards and certificates can be studied on several moments in the process of standardization and certification: drafting standards, publishing standards and applying standards, both in a production process and for testing and certification. Especially official standards are interesting in this context since frequently this type of standard, other than de facto standards, is also drafted to provide a certain guarantee (safety, integrity etc).

Damages

Several types of damage can occur in relation to standardization and certification. Most likely such damage will occur for the user of a product that, due to its non-conformity with a standard, leads to material and / or personal damage. Also pure financial damage may result when a product that

doesn't meet the requirements of the standard prescribed by law cannot be used for the intended purpose. As an example, a telephone, or other telecommunication terminal equipment, that cannot be used in connection with the public telecommunication infrastructure since it doesn't comply with the prescribed standards.

For a producer financial damage can occur when due to a 'defect' in a standard (old version published, incomplete, errors) his products don't meet the legally required technical requirements. Finally, a standards institute could be held liable for drafting and publishing an 'unsafe' standard or, for example, not having corrected a 'defect' standard within a reasonable time.

As however regards liability towards an end user of a product or process that has been standardized, the risk of being held liable for any damage caused by that product or process clearly decreases when climbing up the chain of parties involved in the standardization proces. It is for instance not very likely that the ISO can be held liable by a consumer for setting a standard that is in some way 'defective' (incorrect, incomplete, outdated). After all it could be defended that, although these organizations have a duty of care, in these cases the causal connection is too weak to assume liability²⁹. In such cases more likely, although not automatically more successful, is an action by a producer who suffered damage due to a 'defect' standard. Such action could be based on the contract with the standards institute (sale/licence for a standards document) or on tort.

In the relation between supplier and customer, a certificate is primarily intended to inform the customer of certain aspects of the functioning of the product or the use that can be made thereof. As such this will influence the level of performance that a customer might expect of the product involved. However very few users will be exactly aware of the (limited) meaning of the certificate, and even worse, might associate the presence of a certificate with 'quality aspects' not at all covered by the certificate. If no specific action is taken to inform (potential) customers of the precise significance of a given certificate, it is not unlikely that the expectations of the uninformed customer will be upheld by the courts³⁰.

In the relation between producers and certification institutes liability for the latter could occur in relation to amongst other things breaches of confidentiality, testing errors (wrong equipment, wrong procedures), delays and unfair treatment (lack of impartiality, price discrimination). Producers could be held liable in case of, for instance, the use of the certificate for products (e.g. new software releases) other than those presented for certification, or for misusing a certificate in advertisements³¹. Also copyright issues could be involved³².

Standards and contractual liability

In drafting contracts, both official and de facto standards can be used in describing the contractual obligations of the parties involved. The use of official standards thereby has the advantage that the content of the standard is (unequivocally) laid down in a standards document. This can both avoid discussions between parties and, should the case be put before a court, will ease the burden of proof. A precondition is that the reference to the standard is detailed enough (date, version).

The legal questions become more interesting when no explicit or implicit reference is made to a standard while one of the parties demands the deliverables of the other party to meet a certain standard. This gives rise to the question under what circumstances can a standard be assumed to influence the obligations of the contracting party. On the one hand it seems unlikely that a judge will in such cases hold non-compliance with an official standard to form an 'automatic' non-fulfilment of contractual obligations. On the other it could be defended that when parties had intended to comply with a higher level of quality, security or whatever forms the substance of the relevant (official or de facto) standard, it should have been agreed specifically as such³³.

Product liability

As regards product liability, EC-Directive 85/374 of 25 July 1985³⁴ is of particular importance. At this moment most Member States have implemented the Directive in their national laws. Under the Directive, "the producer of a product shall be liable for damage caused by a defect in his product". Can conformaty to technical standards prevent or reduce liability under the Directive?

According to article 6 of the Directive, a product is held defective when it does not provide 'the safety which a person is entitled to expect, taking all circumstances into account, including the presentation of the product (...)'. In general the presence of certification marks is, at least by the public at large' associated with notions as 'quality', 'safety', 'reliability' etc. Since the expectation of the public at large is the standard for the interpretation of article 6, it cannot be excluded that the presence of certificates on IT&T-products or the reference thereto in brochures etc., could increase the liability risks for the 'producer'. This implies that care should be taken in publicity regarding certificates, specifically in the promotion of the certificates by the certification bodies and by the producers in explaining (the limitations of) the meaning of a certificate in product documentation, advertisements etc.

Where a 'defect' in a product is due to compliance with a given standard that is mandatory on the basis of a regulation issued by public authorities, the producer will not be liable under the Directive for damages caused thereby (article 7 sub e). An other defence that might be relevant is the so called state-of-the-art defence laid down in article 7 sub e of the Directive. Under this defence, a producer shall not be liable under the Directive if he proves that: 'the state of scientific and technical knowledge at the time when he put the product into circulation was not such to enable the existence of the defect to be discovered'. Given that, amongst other things, standards are based on knowledge present at the time of initiating a generally time consuming process (usually several years) of drafting, it can be considered highly unlikely that conformation to a standard will lead to an exemption of liability for the producer on the basis of the state-of-the-art defence in the product liability directive³⁵.

For de facto standards, this conclusion could prove to be too general. It could be imagined that, at least for a certain (short) period of time, some de facto standards could represent the state of the art in a specific part of a technology. Clearly care has to be taken in drawing this conclusion. When the notion 'state of the art' has a wide range, and many authors seem to feel that way, then conformity with a de facto standard will de jure protect the producer of a defect product only very rarely.

Is a certification institute to be considered as a producer when the certificate issued is mentioned on or in relation to a product? This question can be answered negatively. The phrase in article 3 of the Directive that 'producer' also means "(...) any person who, by putting his name, trade mark or other distinguishing feature on the product presents himself as its producer", is not intended to include a certification³⁶ The same applies for organizations that issue a collective trademark³⁷.

General

Standards can also be of importance in determining the duty of care in cases outside the scope of product imply that the required level of care has been exercised.

liability. Under Dutch civil law, compliance with a (official or de facto) standard does not automatically From his analysis of Netherlands' case law in the field of the building industry, *Snijders*³⁸ draws the conclusion that in these decisions the role of standards in determining whether or not liability for a certain act or omission exists is not very clear, and that it provides hardly any assistance for developing of a theory. Further research will have to explore to what extent other conclusions can be drawn regarding standards in the field of IT&T. In advance this doesn't seem very likely.

6. Standardization and competition law

The development of 'open systems' and the liberalization in Europe of the markets for telecommunications services and equipment gives rise to rapidly growing interest in the competition law aspects of IT&T. This development is stimulated by the growing strategic importance of this industry as a backbone for future economic development, and as such of strategic importance for the 'survival' of the economies. An example is the growing pressure in Europe and the United States for government measures aimed at protecting national industries in view of the rising strength of Japan in for instance the semiconductor industry. In the United States, the Gulf War has strengthened the feeling that a strong national IT&T-industry is essential.

For the high-tech equipment of its armed forces the US are significantly dependent on Japan. A possible divergence of the interests of Japan and the United States on a political level has no doubt become a nightmare scenario for many policymakers in the US.

The relation between standardization and competition in the field of IT&T is very complex and subject to rapid developments. Within the context of this paper, the treatment of this complex issue can only be very limited and will merely be an overview of some important ingredients of the issues at stake.

6.1 Effects on competition

Standardization restricts competition due to the limits it imposes on options in designs and production. Other effects of standards on competition in industry are to a large extent determined by the nature of the standards involved. De facto standards, in particular when originating from a single supplier (with a large marketshare), are primarily aimed at defending a marketshare. This will particularly be effective when the standards involved can be kept secret or when they are strongly monopolized by patents. On the other hand competing suppliers can agree upon a common standard, as a weapon to attack the dominant position of another de facto standard, by creating a market for an alternative standard. An example is the EISA-standard, developed as an alternative for IBM's Micro Channel Architecture (MCA). It is clear that also in this case the background for the development of an alternative standard, is a defensive one: protection of the position of the suppliers involved against a total dependence on IBM's technology.

Official standards are preferably viewed as instruments to remove trade barriers and thereby open up markets and increase competition. This will however only be valid when the standards are agreed upon in an international forum, as the ISO. National or regional standards have proven to be an effective way of protecting national or regional industries (e.g. EC Member States, Japan, USA).

6.2 The European Communities: unharmonized standards as a barrier to the Internal market

For Europe, the harmonization of standards, technical regulations and testing and certification procedures for the high tech industry is a matter of utmost importance. Specifically in this sector, market fragmentation has a proven track record in putting Europe at a competitive disadvantage with the US and Japan³⁹. Market fragmentation in this sector leads to duplication of product development (the high costs of which can only be recouped by manufacturing products to widely marketable standards), loss of potential economies of scale and competitive weakness on world markets and vulnerability on European markets as companies operate from a narrow national base⁴⁰.

Dealing with technical barriers to trade in the EC is effected by the interpretation of article 30 EEC (containing the prohibition of measures having equivalent effect to quantitative restrictions'), article 36 EEC (exceptions to this prohibition) as well as the effectiveness of the harmonization ex articles 100 and 100A EC.

The New Approach

Traditionally, elaborate technical specifications used to be incorporated in EC directives drafted in the process of harmonization. Due to the required unanimity in article 100 EC, this approach has led to significant delays in the past. In view of the rapid technological developments and the importance thereof for industrial sectors such as information technology and telecommunications, this approach for the removal of technical trade barriers has proven to be a dead end street⁴¹. To deal with these problems more effectively, the EC has adopted 'a New Approach' to technical harmonization and standardization in 1985⁴². Under this New Approach, it is the task of standards institutes to formulate the technical requirements products have to meet in order to comply with the essential requirements laid down in the directives established under articles 100 or 100A EC. This approach means a fundamental change of course compared to the former harmonization policy. Compliance with European standards provides a presumption of conformity with the fundamental requirements. However these standards are not mandatory, other ways to obtain the presumption of conformity can be followed⁴³.

After implementing the New Approach the outlines of the EC standardization policy are:

A. Selective harmonization: limited to the adoption (by articles 100 and 100A EC) of the essential safety requirements with which the products brought on the market must comply in order to qualify for free movement in the European Community. The formulation of technical specifications on the basis of which industry needs to manufacture and market products complying with the fundamental requirements of the directives, is left to standardization organizations. Under article 100 EC, the Council of Ministers can adopt unanimously directives to overcome obstacles in EC trade due to diverging national regulations based on (alleged) considerations of overriding public interest, such as health, safety, consumer protection or environmental protection. In the Single European Act (1986), the EC Member States have however agreed upon a new article 100A EC that provides for qualified majority voting on directives aimed at harmonization. Further article 100A (sub 4) offers the possibility for national deviation from a harmonization measure adopted by a qualified majority, in so far such deviations are justified by article 36 or the protection of working conditions or the environment.

Since the EC-court had determined that a Member State could no longer invoke article 36 if a directive on the relevant problem has been drawn up, article 100A hence reintroduces the possibility to invoke article 36, supplemented with two other grounds to justify national deviations. This could imply that although after the introduction of article bOA, measures aimed at harmonization can be adopted much more rapidly, the level of harmonization that will be reached can seriously be affected by national deviations

B. Promotion of mutual recognition: goods lawfully produced in one Member State should have free access to all Member States. This principle is being elaborated in the development of system for conformance testing and certification in the EC.

C. Information procedure: preventing the arising of new technical barriers on the basis of Directive 83/189 ('mutual information directive') that obliges Member States to notify new regulations and standards to the European Commission in advance of their enactment. Under this directive, the Commission has the power to freeze introduction of new national regulations for up to a year if it decides that a Community initiative should be undertaken ('standstill'). The adoption of this directive has been of great significance for the European standardization since it provided for a mechanism through which national standardization could become open to collective scrutiny and the Community authorities could initiate European standardization work⁴⁵.

D. Promotion and progress of European standardization: the European Commission has taken several initiatives to support both goals. Especially of importance is the close cooperation established

with CEN, CENELEC and with ETSI. In 1985 the EC has concluded a framework contract for cooperation with CEN and CENELEC. This contract was renewed in 1989. Under the contract the Commission has given more than twenty standardization orders in the field of IT&T to CEN and CENELEC.

Following the ratification of the Single European Act in 1987 the internal regulations of CEN and CENELEC were revised at the request of the Commission to permit the adoption and obligatory transposition of European standards by majority vote⁴⁶. With ETSI, the Commission has provisionally concluded a framework contract for one year under which nine standardization mandates are issued.

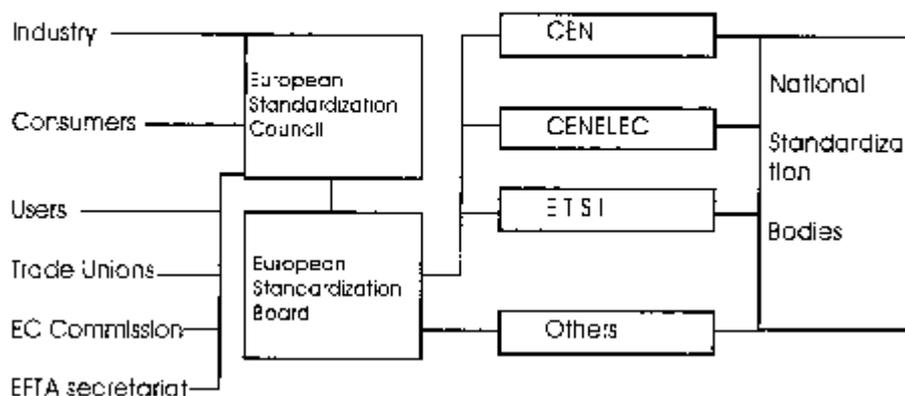
Several Council Decisions, Directives and Recommendations have been issued that provide a framework for communications. Council Decision 87/95 (amongst other things) obliges public bodies to refer to European standards and pre-standards or international standards as the basis for exchange of information and data and for systems interoperability when procuring information technology equipment. Also of importance are the terminal equipment directive⁴⁷ and the directive for the liberalization of telecommunications service⁴⁸. Also within the ONP-program (Open Network Provision) adherence to standards are an important element of the EC approach for creating an open access to the telecommunications infrastructure.

In its Green Paper on Standardization⁴⁹ the European Commission concludes that the European standardization activities still leave a lot to be desired⁵⁰. The Commission formulates a number of recommendations:

- the standardization bodies are asked to take further steps to improve their efficiency and consider restructuring the European standardization system to permit sectoral autonomy while ensuring coordination on a European level through a new European Standardization Council and Board;
- the industry is called upon to give European standardization much higher priority in terms of involvement and commitment of more money and expertise;
- the governments are asked to step up promotion and support of standardization on a national and European level.

The Commission recommends that the European standards will exist in their own right (i.e. no requirement that they be transposed into national standards before use). Also a single set of European standards will have to be established, removing the current distinction between the EN's (produced by CEN and CENELEC) and the ETS's (produced by ETSI).

For the future organization of the European standardization, the Commission proposes the development a European Standardization System. This system would on the one hand allow for diversity of management and organization of sectorially-based standardization activities on a European level, while at the same time assure coordination, transparency and legitimacy of European standardization by applying common rules to all standardization bodies within the system. Part of such system would be a European Standardization Council (ESC), comprising representatives of the European industry, social partners, EC, EFTA and the European standardization bodies (CEN, CENELEC and ETSI), that would be responsible for the overall policy of European standardization. The European Standardization Board would act as the executive body of the ESC. Proposed members are the officers of the European standardization bodies and the secretary of the ESC (see Table 1 for an overview of the proposed structure).

Table I: Proposed European Standardization System

6.3 De facto standards: the boundaries of cooperation and monopolies

In dealing with the effects of standardization, in competition law several issues are of importance, in particular:

- a. the possible monopolization effect of de facto standards. To what extent is such monopolization allowed under the rules of competition law ⁵¹;
- b. agreements on de facto standards between companies. To what extent and under which conditions are such agreements allowed?

In relation to articles 85 and 86 of the EC-Treaty, both issues have in the field of IT&T been dealt with by the European Commission⁵².

The IBM-case, concerning the publication of interface specifications, illustrates the first issue. In the late seventies IBM had developed the policy of not publishing interface specifications of products in the System/370 range, before the first release of the product. Hereby the producers of plug compatible equipment to the System/370 computer systems were severely hindered in competing with IBM. The proceedings by the Commission against IBM were halted after an agreement between IBM and the Commission was concluded⁵³.

The "X/Open Group"-decision illustrates the second issue, in casu an agreement was made between suppliers concerning the promotion and application of the Unix operating system, specifically AT&T's Unix System V. Although the Commission found that this agreement had a restrictive effect on competition, an exception was granted on the basis of article 85 sub 3.

Within the scope of this article, a further treatment of the interesting issues at stake here has to be refrained from. As mentioned before, the growing economic importance of the IT&T-industry as well as the developments in the IT-industry (mergers, cooperation, protectionism?) and the telecommunications sector (deregulation and demonopolization) make it clear that competition law aspects are worth a more detailed study.

7. Concluding remarks

The advancing influence of information technology seems to make it inevitable that technical IT&T-rules will have a growing role in both private and public 'regulations'.

The introduction of the New Approach by the European Commission has led to a shift of competence in which the legislative authorities have withdrawn in favour of self regulation. So far however, an adequate participation of all parties involved is missing in this delegation of authority to private standard bodies. This calls for a critical review of the process of drafting and setting up these technical rules. So far this area has to a large extent been the sole responsibility of technicians and suppliers. The role of users should be strengthened as part of a sustained effort to keep a democratic grip on the process of 'technical legislation'.

Technical rules have in our society become too important to be left to technical experts alone. This is however only one of the challenges of technical rules to the law.

Footnotes

1. Researcher Computer/Law Institute Vrije Universiteit Amsterdam/ attorney with the Computer, Communications and Intellectual Property Law Group of Kennedy Van der Laan attorneys in Amsterdam.
2. In this article the term 'standardization' will be used to cover both the development of technical standards (in the field of Information technology and telecommunications) by national and international standardization institutes and organizations¹ as well as the development of de facto standards In the market place.
3. The US government, spending about 20 billion dollar each year on information technology, has played an important role both here and in the development of standards.
4. Standardization in Information technology and telecommunications, Commission of the European Communities, DG XIII, Brussels, 1988.
5. G. Brock, The U.S. computer industry: a study of market power 143 (1973), as quoted in: M.D. Scoff, The evolution of standards and their effect on litigation In the computer industry, International Computer Law Adviser, June 1987, p.4.
6. In the United States there is a growing concern in the computer Industry about the policy of the government to prescribe certain standards (Federal Information Processing Standards) in procuring computer technology. The 'Computer Systems Policy Group', formed by a number of major suppliers supports the drafting of a 'Commercial Acquisition'-bill that should limit the ability of the US government to influence standards for computer systems (Computable, 22 September 1990).
7. K.A. Barlett, Standards for communications: too many or too few ?,in: A.V. Stokes (ed.), Communications Standards, Maidenhead 1986, Pergamon Infotech Ltd.
8. Description largely based on: The European dimension in international standardization, Commission of the European Communities DG XIII, Telecommunications, Information industries and Innovation, Brussels, 1988, and: S. Temple, A revolution in European telecommunications standards making, ETSi, 1991.
9. EC Standardization fact sheet, Brussels, 1990.

10. (Toelichten dat TRAC de NETS vaststelt; plus komende Wijzigingen)
11. The NET-regime will be replaced by a system in which Common Technical Regulations (CTR's), a subset of ETS's, will become mandatory for type approval of telecommunications terminals after approval by a regulatory committee ACTE (Approval Committee for Telecommunications Equipment). This approach is called 'the second phase' and is based on the Directive on the approximation of the laws of the Member States concerning telecommunications terminal equipment, including the mutual recognition of their conformity, as adopted on 29 April 1991. The 'first phase of type approval' was based on Directive 86/361.
12. EWOS was founded in 1987 by nine European suppliers, users and standardsmakers: SPAG, ECMA, OSITOP, RARE, COSINE, EMUG, CEN, CENELEC and the European Commission/DG IX.
13. P.E.M. Reynolds, Proceedings of a workshop held during the International Symposium on Information Technology Standardization in: J.L. Berg, H. Schumny (eds.), An analysis of the information technology standardization process, North Holland, Amsterdam, 1990, p.433.
14. idem.
15. idem.
16. Memorandum of Understanding, 25 April 1990.
17. On 24 July 1989 the Commission sent to the Council its Communication on the Global Approach to testing and certification (COM(89) 209) in which, amongst other things, it proposed to create an autonomous body in the field of certification. The Council of Ministers agreed in December 1989 to Global Approach, Including the setting up of the EOTC.
18. Commission Greenpaper on the development of European standardization COM(90) 456 def. 19. G.M.F. Snijders, *Produktveiligheid en aansprakelijkheid* Kluwer, Deventer, 1987, p.43 ff. Hereinafter to be referred to as. Snijders, Product safety.
20. Cf. R.W. Overhoff, *De Europese "Technologische Gemeenschap"*, normalisatienormen en wetgeving, *Regelmaat*, 1988, nr. 1, p.9 ff. *Overhoff*(p. 13) points at the problems that may arise due to reference to other standards within a standard. As he notes, from a point of view of legal security it is preferable to treat each standard as an Independent entity.
21. M. Storme, *Bedrijfsjuristen bedrijven recht*, in: *Jurist in bedrijf*, Association Belge des juristes d'entreprise, Bruylant, Brussels, 1989, p.32 ff.
22. Temple, o.c., p.44.
23. Temple, o.c., p.44 ff.
24. Temple, o.c., p.45.
25. A recent study performed in 17 EC and EFTA countries indicated that the market for standards information amounts to 125 million ECU's (Gavel, Paris, 1989).
26. A.P. Meijboom, *Overview of the protection of databases in Belgium and the Netherlands*, In: M. Vivant (ed.), *Proprintell-report*, Montpellier, 1989.
27. Commission Green Paper on the development of European standardization, COM(90) 456 (def)

p.49.

28. Standardisation In Information technology, Commission of the European Communities, DG XII I, Brussels, 1988.

29. Cf. Snijders, Product safety, p.244.

30. See for a more detailed treatment of liability issues Involved: C. Stuurman (ed.), *Certificatie van software in juridisch perspectief* (Certification of software in legal perspective), Netherlands Association for Computers and Law, Amsterdam, 1988.

31. An example thereof recently occurred in the Netherlands where a software supplier used the fact that a certificate for its quality process was obtained in a way that confused the public. The ICIT, a coordinating body for IT-certification In the Netherlands, reminded the certification institute that held a licence to apply the IC IT-certificate, of its responsibilities in this matter.

32. See: C. Stuurman (ed.), *Certificatie van software In juridisch perspectief* (Certification of software in legal perspective), Netherlands Association for Computers and Law, Amsterdam, 1988.

33. See the decision of the Netherlands Council of Arbitrators for the Building Industry of 29 february 1984 as mentioned by Snijders, Product safety, p.207.

34. Council Directive of 25 July 1985 on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products, Official Journal No. L 210 of 7 August 1985.

35. See C. Stuurman (ed.), *Certificatie van software in juridisch perspectief*, Netherlands Association for Computers and Law, Amsterdam, 1988.

36. M. van Empel, H.A. Ritsema, *Aansprakelijkheid voor produkten*, Kluwer, Deventer, 1987, p.66.

37. Idem.

38. Product safety, p.210.

39. P. Cecchinl (ed.), *The European Challenge 1992, the benefits of a Single Market*, Gower, Aldershot, 1988.

40. Cecchini, o.c., p.27.

41. Overhoff, o.c.

42. Council Resolution of 7 May 1985, OJ C 136 of 4 June 1985. See for the New Approach: J. Pelkmans, *The new approach to Technical Harmonization and Standardization*, Journal of Common Market Studies, Vol. XXV, Nr. 3, March 1987, p.253 if; Cecchini, o.c, p.28 ff.

43. European standards can not be mandatory because the national authorities remain ultimately responsible for the protection of health etc. Therefore, a presumption of conformity can also be obtained by for instance a manufacturers' declaration backed by a designated certification organ (Pelkmans, o.c., p.255).

44. In this way: G.M.F. Snijders, *Produktenrecht. Drie aspecten in Europees perspectief*, Kluwer, 1990, p.38, and the authors quoted. On the other hand there is the obligation to aim at a high level of

protection when setting harmonisation measures in the field of public health, safety, environment and consumer protection. When this obligation is taken more seriously, it becomes more difficult for the Member States to invoke the exceptions of article 100A sub 4. Practice will have to show what will be the impact of article 100A in this respect.

45. Commission Green Paper on the development of European standardization, COM(90) 456 def., p.16.

46. When a standard does not receive the support from a majority of the members of CEN and CENELEC, the votes of the EC Member States are counted separately. A qualified majority in favour requires the adoption of the standard by all EC members and those EFTA members that voted in favour. A similar procedure exists within ETSI (Green Paper, p.17).

47. Directive 88/301 as issued by the European Commission on the basis of article 90 sub 3 EC. The authority of the Commission to issue this Directive is being challenged before the European Court by a number of member states.

48. OJ C 1989/671 of 28 June 1989.

49. COM(90) 456 def.

50. Cf. p.7 of the Green Paper: "The European standardization bodies have made major efforts to respond to the increased demands for their services for recent years (...) but demand for European standards is outstripping supply."

51. Cf. the discussion of the 'look and feel issue' as described above.

52. See: M. Sucker, Normsetzung durch Kartelle und Marktbeherrscher im Bereich der Datenverarbeitungsindustrie, Computer und Recht, 4/1988, p.271 ff. The description of the two following examples (IBM and X/Open) is based on this article.

53. The text of this agreement was published in Bull. EG 10-1984, p.100-107.

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