

Competition Law and Intellectual Property

International Competition Law Series

VOLUME 50

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The titles published in this series are listed at the end of this volume.

Competition Law and Intellectual Property

A European Perspective

Edited by

Giandonato Caggiano

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Wolters Kluwer
Law & Business

Published by:

Kluwer Law International
PO Box 316
2400 AH Alphen aan den Rijn
The Netherlands
Website: www.kluwerlaw.com

Sold and distributed in North, Central and South America by:

Aspen Publishers, Inc.
7201 McKinney Circle
Frederick, MD 21704
United States of America
Email: customer.service@aspublishers.com

Sold and distributed in all other countries by:

Turpin Distribution Services Ltd.
Stratton Business Park
Pegasus Drive, Biggleswade
Bedfordshire SG18 8TQ
United Kingdom
Email: kluwerlaw@turpin-distribution.com

Printed on acid-free paper.

ISBN 978-90-411-3447-9

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Printed and Bound by CPI Group (UK) Ltd, Croydon, CR0 4YY.

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Chapter 6

The Interplay between Standardization, IPR and Competition Law

*Ian S. Forrester, QC**

1. STANDARDS ARE OMNIPRESENT AND IMPORTANT

In our daily life we use and are surrounded by a wide variety of goods and services which are governed by standards. Lawyers (who are likely to think of controversies) will focus on information technologies: mobile phones, PDAs or computers, which each implement dozens of different standards to function properly. Standards cover hardware components, from the design of the electrical plug which goes into the wall to the DRAM (Dynamic Random Access Memory). The formats of the electronic content which drives computers, toasters, car alternators and mobile phones are standardized. The devices also rely on standards to connect to the network (through mobile phones or wireless or landlines) and to communicate with other devices over these networks (internet protocols).

Standardization is not limited to high tech appliances. The website of the CEN (European Committee for Standardisation),¹ one of the three recognized European

* Warm thanks are expressed to Pascal Berghe, *avocat au barreau de Bruxelles*, with whom I have had the pleasure to work on a number of interesting questions of European law, for his contribution to this paper. The opinions expressed are wholly personal.

1. Comité Européen de Normalisation, <www.cen.eu>.

standardization organizations,² shows how many aspects of life are actually subject – or potentially subject – to standardization. Sport is included. The CEN homepage proudly announces that CEN has developed a series of standards for protective clothing to practise martial arts (EN 13277). The picture shows a woman wearing the (standardized) white suit of a karate practitioner striking some construction blocks with her bare hand. Assuming they are normal bricks they will certainly respect CEN standards. Moreover, the picture itself is no doubt embedded in a standardized electronic file.

Standards also extend to services. For instance, quality management systems have been adopted for healthcare services (CEN/TR 15592:2007), tourism services (EN 15565:2008), postal services (from the measurement of loss of registered mail – EN 14137:2003, to automated processing of mail items – CEN/TS 14442:2003). CEN has not yet developed standards covering the legal profession but CWA 15710:2007 is named ‘METALEX’ and is described as an ‘open XML interchange format for legal and legislative resources’.

Standardization is not a modern phenomenon. In his admirable article, Carl Shapiro (now the Chief Economist of the Antitrust Division of the US DOJ) refers to an article tracing the history of standard adoption and gives the example of fire hoses that were standardized after the great Baltimore fire of 1904, as a painful result of which fire departments of Baltimore, New York and Washington realized that their equipment was not compatible.³ Yet, obviously, standardization had already occurred within each of these cities. To take another example, A. Nesmith explains the difficulty to implement a uniform width for rail tracks within the United States.⁴ The European experience has been different in detail but similar in principle. The Twelve Tables, dating back to the period of the kings in Roman law, provided that a road should be 2.45 m wide where straight and 4.90 m wide where curved.⁵ Presumably, this standard *inter alia* enabled builders of carts to manufacture vehicles that could traverse these roads without uncertainty. There have also been numerous attempts – far from successful – to impose uniform measurement units over the ages. The persistence of feet, inches, yards, furlongs,

2. The other two are the CENELEC (European Committee for Electrotechnical Standardisation – Comité Européen de Normalisation ELEctrotechnique, <www.cenelec.eu>) and ETSI (European Telecommunications Standards Institute, <www.etsi.eu>).

3. C. Shapiro, ‘Setting compatibility standards: Cooperation or collusion?’, in *Expanding the boundaries of intellectual property*, ed. R. Cooper Dreyfuss, D. Leenheer Zimmerman & H. First, (Oxford:Oxford University Press, 2001), 81.

4. A. Nesmith, ‘A long, arduous march toward standardisation’, available at <<http://journals.iran-science.net:800/www.asme.org/history/nesmith.html>>.

5. Wikipedia, <http://en.wikipedia.org/wiki/Roman_road>. The Twelve Tables, promulgated in approximately 450BC, provided at Table VIII (on the law of real property), Law VIII: ‘where a road runs in a straight line, it shall be eight feet, and when it curves, it shall be sixteen feet in width’. See <http://www.constitution.org/sps/sps01_1.htm>; see ‘[6] Viae latitudo ex lege XII tabularum in porrectum octo pedes habet, in anfractum, id est ubi flexum est, sedecim (Gaius, D. 8, 3, 8)’ as adopted by the Perpetual Edict of 212 AD, recorded by Gaius: <http://www.hs-augsburg.de/~harsch/Chronologia/Lsante05/LegesXII/leg_ta07.html>.

miles in competition with metres and their derivations confirm the challenge and the difficulty of switching standards.

2. CLASSIFICATION OF STANDARDS

Standardization achieves some uniformity. This may serve various aims and results from various processes. Thus, standards may be classified according to the aim they pursue (quality or compatibility) or the way they have been adopted (*de facto*, government-driven initiatives, private organization). These distinctions are important to understand the complexity of the question and the type of competition issues that may arise. The most serious competition issues tend to arise with regard to compatibility standards adopted through a formal standardization process.

2.1. CLASSIFICATION REGARDING THE BASIC FUNCTION OF STANDARDS

The standardization process seeks to achieve a minimum level of uniformity and consistency to pursue several goals.

On the one hand, the aim may be limited to ensuring a minimum quality level (quality standards), with a view to enhancing the average quality of the products. Parma ham, Scotch whisky, boxer dogs and Stilton cheese are each governed by common definitions of quality. Europe's food is much more governed by guild – inspired traditions than North American food. (I would voice as the viewpoint of a European consumer that European food is the better for some fanaticism.) Quality standards may be voluntarily adopted by companies to promote the superior quality of their products or services, or be mandated by public authorities or industry-wide associations to ensure a minimum level of safety for end-users. Industry-wide standards also constitute a means for consumers to compare the relative quality of products offered by several companies without having to test them, thus reducing transaction costs and increasing competition (many consumers are influenced by calorific content, energy consumption or energy-saving criteria, green credentials or crash-test results for cars). Some terms are far from clearly defined ('fair trade') whereas others have now been codified by law ('organic' or 'bio').⁶ Without binding legislation, I suspect that some such terms would have degenerated through years of careless use.

Food law provides good examples of the difficulties to distinguish what is standardized from what is not. Community law distinguishes between geographical indications of origin, which specify compulsory manufacturing rules and are

6. Council Regulation (EC) No. 834/2007 of 28 Jun. 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No. 2092/91, OJ [2007] L 189/1.

registered, and generic terms.⁷ While the use of the former may be restricted to food produced according to certain rules in a given region (standardized), the use of the latter must remain free (non-standardized). The *feta* cases show the difficulty of drawing the line. In 1999, on the application of Denmark and Germany, the ECJ annulled a Commission Regulation recognizing ‘feta’ as a geographic indication of origin for cheeses made in Greece, on the ground that the Commission had failed to take into consideration the fact that cheeses under the name ‘feta’ had been manufactured in other Member States.⁸ Following the judgment, the Commission sent a questionnaire to find out how the name ‘feta’ was perceived. Since it resulted from that inquiry that ‘feta’ was linked to Greece, the Commission adopted a new Regulation registering de novo ‘feta’ as a protected geographical indication. Denmark and Germany challenged the regulation anew. However, this time, the ECJ validated the regulation and the limitation of the use of the ‘feta’ name for cheese made in Greece.⁹ The disputes confirm the relevance and importance for quality of consumer perceptions and the weight attached by EU law to reinforcing these.

On the other hand, the aim may be to ensure interchangeability between competing products or interoperability between complementary products (compatibility standards). Of course, compatibility standards may be viewed as a subset of the first category since they ensure a minimum level of quality, but their goal is radically different. Compatibility standards do not seek to enhance the quality of the standardized products but merely to ensure that they can be substituted or be used with other complementary products.

To put it simply, quality standards tend to seek higher product quality (safer, healthier, greener, less energy consumed) whereas compatibility standards primarily seek consistency at an agreed level, and widespread adoption. Obviously, this picture is too crude: quality standards would be meaningless if they were not widely adopted, and compatibility standards are constantly revised to improve the average quality of the standardized products, to learn from technical progress, and so on.

2.2. HOW STANDARDS MAY BE ADOPTED

First, standardization may result from government intervention (public standards). Governments enact, usually via secondary legislation, mandatory rules, with which market operators have to comply. Uniformity is achieved at the level defined in

7. For instance, compare Case C-108/01, *Consorzio del Prosciutto di Parma and Salumificio S. Rita v. Asda Stores and Hygrade Foods*, [2003] ECR I-5121, where the Court accepted that Parma Ham had to be sliced in the region of Parma to be allowed to use the name ‘Parma Ham’; and Case C-448/98, *Criminal proceedings against Jean-Pierre Guimont*, [2000] ECR I-10663, where the Court refused that France restricts the name ‘emmental’ to cheese without rind.

8. Joined cases C-289/96, C-293/96 and C-299/96, *Denmark, Germany and France v Commission*, [1999] ECR I-1541.

9. Joined Cases C-465/02 and C-466/02, *Germany and Denmark v Commission*, [2005] ECR I-9115.

these legislative or administrative rules. For instance, motor vehicles¹⁰ are subject to a vast number of texts which regulate almost everything from the maximum sound level¹¹ to the maximum steering effort¹² or the design and test requirements of safety belts.¹³ These standards are also the subject of harmonization at international level, in cooperation with, notably, Japan and the United States. Indeed, WTO rules nowadays regulate each country's freedom to adopt different standards or to reject standards developed abroad.

Second, standardization may result from the commercial success of one market player (*de facto* standards). Outstanding commercial success may lead the products of one undertaking to eliminate rivals and become the market reference. The battle between PAL and SECAM for video format was decided in the marketplace. The battles between LINUX open source software and proprietary software continue vigorously.

Finally, standardization may result from a cooperative initiative from within the industry, either through a private Standard-Setting Organisation (formal private standards) or through ad hoc cooperation between a number of market players (informal private standards). Both formal and informal standardizations are cooperative, but the standardization process is different.

Formal standardization through an SSO constitutes the paradigm of 'standardization' as generally understood. It involves an organization whose membership is composed of companies active in the same technical field – thus competitors, but also sometimes suppliers/customers and developers of technology – and whose functioning is regulated by internal rules. While standard-setting organizations are generally open to any interested company, participation, when voluntarily chosen by the company, should entail rigorous compliance with the SSO's internal rules. Standards are adopted in two phases: first, the member companies propose various technical options to solve a specific technical issue; then the member companies vote to choose the option which will be incorporated in the standard. The respective technical merits of the proposals presented as candidates for adoption will constitute one of the most important criteria, although the total costs and commercial convenience of adopting the standard may well be taken into account. This is the distinctive feature of formal standardization: unlike *de facto* or informal standardization, the adopted standard does not result from the free play of the market but

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10. Directive 2007/46/EC of the European Parliament and of the Council of 5 Sep. 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, OJ [2007] L 263/1.
 11. Council Directive of 6 Feb. 1970 on the approximation of the laws of the Member States relating to the permissible sound level and the exhaust system of motor vehicles, OJ [1970] L 42/16. For the constitutional limits of local authorities' power to adopt 'rogue' standards, see the celebrated House of Lords case on the *London Lorry Ban: London Boroughs Transport Committee v. Freight Transport Association Limited and Others*, [1991] 3 ALL ER 915.
 12. Council Directive of 8 Jun. 1970 on the approximation of the laws of the Member States relating to the steering equipment for motor vehicles and their trailers, OJ [1970] L 133/10.
 13. Council Directive of 28 Jun. 1977 on the approximation of the laws of the Member States relating to safety belts and restraint systems of motor vehicles, OJ [1977] L 220/95, amended 13 times since its original adoption.

from a collective decision of competing undertakings. Even if the market might ultimately have tipped in favour of one *de facto*, informal or formally adopted standard, competition for the market between incompatible technologies is here replaced by cooperation amongst competitors. While every SSO shares these basic characteristics, a review of their internal rules reveals an amazing diversity.¹⁴

3. COMPETITION LAW AND STANDARDIZATION

Standardization has recently attracted a lot of attention from antitrust practitioners and academics. The literature mostly discusses the questions raised by compatibility standards adopted through formal standardization process.

3.1. DISTINGUISHING BETWEEN QUALITY AND COMPATIBILITY STANDARDS

Competition law does not distinguish as such between quality and compatibility standards.¹⁵ However, the distinction remains important because compatibility standards present a higher risk of foreclosure effects.

Quality standards are chosen with a view to being reflected in a product's objective quality. Not being able to claim to comply with a quality standard prevents a producer from invoking a nice point of reference to prove the quality of its products. However, non-standardized products can still compete in the market merely by demonstrating their equivalence or superiority. It is not certain whether tasty cheese from Cornwall which is ineligible for the name Stilton is prejudiced by being unable to rely on the famous name of Stilton (which must come from the Vale of Belvoir). Certain appellations like that of Harris Tweed have been the subject of proceedings before UK courts.¹⁶ Others have been the subject of proceedings before the ECJ.¹⁷

By contrast, compatibility standards concern a product's functionalities and its ability to interoperate with complementary products. Therefore, even if non-standardized products are objectively better from a technical point of view, they cannot compete on the market unless users adapt or replace the complementary products they are supposed to interact with. In other words, the competition assessment will need to evaluate the risk of lock-in due to the existence of 'network effects' or significant 'switching costs'.

14. M. Lemley, 'Intellectual Property Rights and Standard-Setting Organizations', 90 *California Law Review* (2002): 1889, an article full of colourful illustrations.

15. Commission Guidelines on the applicability of Art. 81 of the EC Treaty to horizontal cooperation agreements ('Horizontal cooperation guidelines'), OJ [2001] C 3/2, paras 159–178.

16. *Argyllshire Weavers v. A. Macaulay (Tweeds)*, [1964] RPC (Reports of Patent Cases) 477.

17. See the examples of emmenthal and feta given above; also the Spanish cava and the Bocksbeutel of Frankenwein, among numerous examples.

3.2. PUBLIC STANDARDIZATION

The elaboration of a standard by public authorities falls outside the scope of competition law. In that regard, lobbying action to influence the determination of the standard has been immunized by US antitrust law under certain circumstances.¹⁸ It is routine in the European context, but not immune from scrutiny merely because pursued by a trade association (*BNIC* is one example of the use of supposed quality standards to hinder competition).¹⁹

That is not to say that competition law is completely irrelevant for public standardization. Public authorities often delegate to private bodies the elaboration of technical standards and limit themselves to adopting and enforcing them. In so doing, Member States must however comply with Article 10 EC which places them under a duty of loyalty with respect to the ends of Community policy. As a consequence, they must refrain from taking measures which could hinder the full implementation of European law, 'affect the Community measure or alter its scope'.²⁰ In particular, the Court held that 'Articles 85 and 86 of the Treaty, in conjunction with Article 5, require Member States not to introduce or maintain in force measures, even of a legislative nature, which may render ineffective the competition rules applicable to undertakings'.²¹

Conversely, companies involved in the setting of standards under the supervision of the State must be aware that EC competition law has applied very restrictively the State-compulsion defence. That the State explicitly permits is not the same as the State compelling. To the extent that participants retain a certain margin of discretion, they remain fully subject to competition law. In a series of cases, producers of Cognac and Armagnac unsuccessfully defended their pricing measures by claiming quality justifications and the fact that they were appointed by the State. However, the Court rejected that argument, pointed out that the price agreements were concluded by persons representing trade associations and acting in their interest rather than the public interest.²² The fact that Member States make the agreements binding may not remove such agreements from the scope of Article 101 TFEU. The cautious but not surprising scope of the doctrine was confirmed in *Ladbroke*, where the ECJ concluded that 'Articles 85 and 86 may apply, however, if it is found that the national legislation does not preclude undertakings from engaging in autonomous conduct which prevents, restricts or distorts competition'.²³

18. US Supreme Court, *E. R.R. Presidents Conference v. Noerr Motor Freight*, 365 U.S. 127 (1961) and *United Mine Workers v. Pennington*, 381 U.S. 657 (1965).

19. Case 123/83, *Bureau National Interprofessionnel du Cognac v. Guy Clair*, [1985] ECR 391.

20. K. Lenaerts & P. Van Nuffel, *Constitutional Law of the European Union*, (London: Sweet & Maxwell, 2005), 122.

21. Case 267/86, *Van Eycke v. ASPA* [1988] ECR 4769, para. 16.

22. Case 123/83, *Bureau National Interprofessionnel du Cognac v. Guy Clair*, [1985] ECR 391.

23. Joined cases C-359/95 P and C-379/95 P, *Commission and France v. Ladbroke Racing*, [1997] ECR I-6265, para. 34.

3.3. *DE FACTO* STANDARDIZATION

As explained above, *de facto* standardization is nothing more than the result of commercial success on the market place. If better mousetraps are built, then consumers will choose them and the market will organize itself accordingly. Neither the acquisition nor the maintenance of a dominant position constitutes a competition violation. Article 102 TFEU prohibits not dominance but abuse of dominance. Unlike the US position, there is no ‘monopolization’ infringement in EC competition law. Once a company through legitimate market success has obtained a dominant position, EC competition imposes the ‘special responsibility’ enunciated in *Michelin*.²⁴

When dealing with *de facto* standardization, the most relevant question is whether the dominant company is compelled to grant access to what has become a standard. It is admitted that there is no general obligation to deal – even for dominant companies. All authorities concur in the reassuring principle that only in exceptional circumstances are dominant companies obliged to license their technologies. But in successive cases, deciding whether and to what extent a dominant company may be forced to share its intellectual property or data or methods or copyright material with competitors so that competitors are enabled to develop competing products has been hotly debated.

Compulsory licences can promote interoperability, but at the price of a forced sharing of others’ creativity: suppose the most successful mode of doing business, developed by one company, has been widely adopted by the industry and the developer declines to share the right to use its technique. Should the law override that refusal or leave the developer to enjoy the sole fruits of its good fortune? Few topics are more fiercely contested. Consumers will benefit from lower prices, but at the price of denying a legal monopoly. The successful standard may not be the best one. This is the paradox of imposing compulsory licences in *de facto* standardization cases: short term competition is enhanced due to increased consumer choice, but the incentives to develop a competing standard are reduced.

The Court of Justice in *IMS* offered a test which is well crafted and is capable of being reconciled with the protection of innovation²⁵ (the tests are set forth below). The two conditions of prime relevance here involve the blocking of an innovation to the detriment of customers, and the blocking of all competition.

Courts are sometimes told that the refusal to license is truly the anticompetitive hijacking of a *de facto* standard. The *IMS* case can be interpreted as a *de facto* standardization case. The question was whether *IMS*’s method of presenting drug sales had become an industry standard that its competitors needed to use in order to

24. Case 322/81, *Nederlandsche Banden industrie Michelin v. Commission*, [1983] ECR 3461, para. 10: ‘A finding that an undertaking has a dominant position is not in itself a recrimination but simply means that, irrespective of the reasons for which it has such a position, the undertaking concerned has a special responsibility not to allow its conduct to impair genuine undistorted competition on the common market.’

25. Case C-418/01, *IMS Health v. NDC Health*, [2004] ECR I-5039.

compete. IMS organized an event at which pharmaceutical companies came together in a large hotel room to participate in the drawing up of a map of Germany, dividing the country into 1860 sections or bricks following postcode lines. This so-called brick structure reflected the needs of the pharmaceutical manufacturers who wished to monitor sales patterns very closely, district by district. (The map's boundaries took account of where pharmacies were located, rivers and bridges and hospitals, all relevant to the consumption of medicines dispensed to the patients). IMS then procured from pharmaceutical wholesalers data on volumes of drugs delivered, and supplied that data each week or month to drug manufacturers. Thus the manufacturer of Valium would know how much Valium was dispensed in a week to patients in three pharmacies in one 'brick' or area. NDC, a breakaway enterprise, wanted to offer a competitive reporting service (different certainly, in its view superior) but said that it could not get customers unless it could present the data in the same standard format as IMS.

The litigations associated with this controversy have lasted an astonishingly long time, passing through a rich variety of courts as well as the European Commission, which was so stirred that it took one of its rare interim measures decisions ordering a licence by IMS. The ECJ gave a well-crafted judgment in April 2004 (just after the Commission's Decision in March 2004 concerning Microsoft). The Court held that:

The refusal by an undertaking which holds a dominant position and owns an intellectual property right in a brick structure indispensable to the presentation of regional sales data on pharmaceutical products in a Member State to grant a licence to use that structure to another undertaking which also wishes to provide such data in the same Member State, constitutes an abuse of a dominant position within the meaning of Article 82 EC where the following conditions are fulfilled:

- the undertaking which requested the licence intends to offer, on the market for the supply of the data in question, new products or services not offered by the owner of the intellectual property right and for which there is a potential consumer demand;
- the refusal is not justified by objective considerations;
- the refusal is such as to reserve to the owner of the intellectual property right the market for the supply of data on sales of pharmaceutical products in the Member State concerned by eliminating all competition on that market.²⁶

Thus, the Court required (i) indispensability, (ii) offering of a new product, (iii) absence of objective justifications and (iv) elimination of all competition. With regard to the first condition, the required indispensability is absolute and goes beyond mere convenience. These tests deserve to stand the test of time but they are not the same as the criteria used by the CFI in *Microsoft*, a subsequent case.

26. Case C-418/01, *IMS Health v. NDC Health*, [2004] ECR I-5039, operative part (emphasis added).

To oversimplify the contrast, I would contend that *IMS* tells us that compulsory licensing of technology rights surrounding a standard can be authorized to ensure that licensees will not have to exit the market and will be offering a specific new product. The *Microsoft* standard appears to be that a compulsory licence may be granted where this may lead to the emergence of new products in general. Indeed, the CFI merely assessed (i) whether ‘the refusal at issue is liable to, or is likely to, eliminate all effective competition on the market’;²⁷ (ii) whether ‘a refusal to license a [. . .] right is capable of causing prejudice to consumers [. . .] where there is a limitation not only of production or markets, but also of technical development’;²⁸ and (iii) the absence of objective justifications.

Thus the CFI watered down the test laid down by the ECJ in *IMS*, by substituting the qualitative test of ‘no viable competition’ for the absolute one of ‘no competition’, and by substituting the notion of possible innovation for the precise one of preventing the emergence of a specific new product for which there is unmet consumer demand.

The judgment evidently confirms yet again that IPRs do not necessarily prevail over competition law. The issue is to determine in what circumstances one set of rights trumps the other. In realizing its assessment, it might be very difficult for the Commission or any other competition authority to balance the short term gains arising from increased competition with the long-term gains due to IPR protection of incentives to innovate. It is easy to say that in order to ensure innovation long-term incentives to invest must be safeguarded, and that favouring competition intervention may be counterproductive in the long-term.

3.4. INFORMAL STANDARDIZATION

Informal standardization can be very similar to *de facto* standardization. Both result from a selection made by the market itself (tipping). In informal standardization cases, the winning technology is not developed by one single company but results from a joint effort by several companies. This was for instance the case of the CD (developed by Sony and Philips), the DVD (developed jointly by Philips, Sony and Pioneer) or the Blu-Ray Disc (developed by Sony, Pioneer, Philips and others). The last example is particularly illustrative of the informal standardization process: from 2002 to 2008, Blu-Ray Discs competed with HD DVD, supported by a consortium led by Toshiba. However, after the announcement by most cinema studios that they would exclusively support Blu-Ray, Toshiba decided to stop developing and marketing HD DVD. Most of the competition issues that arise in *de facto* standardization remain relevant for informal standardization: the companies having developed the standard together may hold a joint dominant position, in which case refusal to deal constitutes the main question. In *IGR*, a group of German television manufacturers had acquired two important patents for stereo

27. Case T-201/04, *Microsoft v. Commission*, [2007] ECR II-3601, para. 563.

28. Case T-201/04, *Microsoft v. Commission*, [2007] ECR II-3601, para. 647.

television sets and refused to grant licences to non-members.²⁹ Japanese producers were excluded, without competition law reprisals. On a complaint lodged by Salora, a Finnish company (Finland was not then a Member State), the Commission signalled that it considered this conduct as infringing what is now Article 101 TFEU and that it was ready to take interim measures. As a consequence, the group of manufacturers agreed to licence all Community manufacturers and the complaint was dropped.

Informal standardization of course raises other competition issues due to the collaborative nature of the exercise. Usually, it will fall to be analysed under Article 81 as it constitutes cooperation between horizontal competitors. The Horizontal Cooperation Guidelines do not really distinguish between informal and formal standardization.³⁰

4. FORMAL STANDARDIZATION AND COMPETITION LAW

4.1. STANDARDIZATION AND MARKET POWER

The major concern of competition law with regard to standards is the acquisition of undue market power and the foreclosure of rival technologies. Thus, the inclusion of a technology in a standard can bring or increase market power for the proponents of that technology. But this is not necessarily the case, as it depends on the existence of sunk costs that prevent switching and lock-in effects. The market may find the standard not attractive enough to justify the price. One example of a standard developed by an SSO which failed to get commercial success on the market is the Open Systems Interconnection. The OSI standard was developed by the International Organization for Standardization (ISO) to standardize network communications. However, it was seen as very complicated and difficult to implement. As a result, the OSI standard eventually collapsed while the market adopted the competing Internet's TCP/IP protocols.³¹ In general, quality standards are by nature unlikely to give rise to lock-in effects, except if they become compulsory through legislative involvement. In addition, not all compatibility standards give rise to market power. Technological history is replete with examples of two or more technological standards which competed head-to-head for a long time. This was the case between the PAL and SECAM video cassette standards. More recently, the HD-DVD and Blue Ray also fought out which would prevail in the market. In the late nineteenth century, the competition was between the proponents of AC and DC electricity services (promoted by Messrs Westinghouse and Edison). Only technology essential to implement the standard acquires such market power. (Westinghouse and Edison each spared no effort to show the public that the

29. 'Commission's Eleventh Report on Competition Policy' (Brussels: 1981), 63.

30. Horizontal cooperation guidelines, paras 163 et seq.

31. <http://en.wikipedia.org/wiki/Open_Systems_Interconnection>.

one's power was safer, cheaper, more reliable. To show that the other's was more dangerous, animals were electrocuted in a variety of tests; even more ghoulishly, friends of AC recommended DC as the best means of executing prisoners condemned to death, to confirm its lethality as a telling fact for the market place).³² So there is nothing inherently infeasible in selling two technical alternatives. Quality Standards of technology can be as earlier noted a vehicle of guild-like cooperativeness.

Assuming that the inclusion of an essential technology gives rise to market power for the holder of that technology, it must be assessed whether this confers incremental market power. Indeed, such technology might have benefited from market power regardless of being chosen by the standardizers. If the industry would have widely adopted the technology anyway, it cannot be concluded that the company obtained incremental market power through the inclusion of the technology in the standard. If there were equivalent alternative technologies that were not chosen, inclusion in the standard might provide incremental market power. The industry members will not want to switch if they have already made significant investments to implement the adopted standard (sunk costs and other lock-in effects).

The granting of a patent to the technology does not in itself give market power to the patent holder. The patented technology will compete with dozens of other patented or non-patented technologies. The fact that a patented technology is chosen to be included in a standard does not in itself give market power to the patent holder either. If the technology is chosen because it is the best one available from a cost/performance point of view, any market power will arise from its intrinsic merits and not from its inclusion into the standard: with or without the standard, it would have prevailed on the market. That said, standardization of a technology may artificially give market power to the patent holder if (i) the technology represents only a modest advance over the previous generation of technology and other alternatives and (ii) if there are important network effects which prevent the co-existence on the market of multiple standards or alternative technologies. This is illustrated in Table 6.1:³³ only in the bottom right box will the value of the technology be dependent on the inclusion into a standard.

The case of *Rambus* is a celebrated example of the passions which standard-setting processes can generate. In 1989 two inventors, Mark Horowitz and Michael Farmwald, at a restaurant in California called Pirates Alley conceived a means to achieve far faster speeds for the functioning of DRAMs (Dynamic Random Access Memory), upon which the future of the computer industry depended. Without enhanced speeds, the future development of the computer industry would be hindered. DRAMs fetch and carry away data worked by the processors. If the micro-processor (or 'CPU') cannot access data and deliver data stored in memory, the

32. T. McNichol, *AC/DC: The savage tale of the first standards war*, (San Francisco: Jossey-Bass, 2006).

33. This table was prepared by Professor Rapp for use in the *Rambus* case. See case COMP/38.636 – *Rambus*, Commission decision of 9 Dec. 2009.

Table 6.1 How Technology's Inclusion in a Standard Affects Its Value

Compatibility Requirements	The New Technology Represents a Minimal Advance Over Existing Technologies	The New Technology Represents a Significant Cost/Performance Advantage Over Existing Technologies
Low – multiple standards can coexist	Low Value	High Value
High – only one standard at a time	Low value if the new technology is not made the standard or High value if the new technology is made the standard	High Value

computer's operations will be slowed down. The inventors, both professors, not manufacturers, conceived several techniques to achieve huge increases in DRAM speed, of which one was to design a DRAM which acted not at each clock cycle (the computer's internal rhythm) but at the beginning and end of each clock cycle. This doubled the speed of the device. This and other techniques designed by Farmwald and Horowitz were promoted by Rambus, the infant company they created 20 years ago.

DRAM manufacturers were dubious about whether the devices could be made but a number of Japanese producers took licences, maybe with some scepticism, to use Rambus's techniques in making their DRAMs. It was not at all sure at that moment that the company's technology would catch the fancy of the industry. The techniques were novel, radical, and they were being offered by an outsider company, without any production capacity or indeed manufacturing experience. As part of the process of promoting its technology Rambus was pleased to be invited to attend meetings of JEDEC (Joint Electron Devices Engineering Council), which was an American standardization body active in semiconductors and part of the Electronic Industries Association (EIA).³⁴ JEDEC members included major users of DRAM technology as manufacturers or users. Rambus representatives attended a number of these meetings between 1991 and 1995. It was an outsider in the sense that instead of discussing what techniques to use when making DRAMs in its own factory it wanted to commend its newly developed techniques to DRAM manufacturers for use in their fabrication units. However, these

34. Since 1999, the organization changed its name into JEDEC Solid State Technology Association. It is still a recognized sector of the now Electronic Industries Alliance (EIA).

companies were more accustomed to trading licences between themselves, often gratuitously. The events nearly 20 years ago have been disputed. In the view of Rambus, there would have been no point in coming to JEDEC meetings other than with a view to licensing its new technology for royalties.

Rambus was asked whether it planned to seek patents in the United States and declined to confirm or deny the details for its plans (patents were also applied for in Europe). JEDEC members, according to one version of events, were deceived into believing that Rambus's technology would be available for their use more or less free of charge, and adopted the inventions of Farmwald and Horowitz into the definition of how a DRAM covered by the standard would work. According to another version of events, the DRAM manufacturers conspired to reject the novel Rambus technology since it would add to production costs. In the eyes of one side there was a 'patent ambush' as the manufacturers were locked into the Rambus techniques and could not adopt other techniques once they realized Rambus wanted to be paid. In the eyes of the other side there was a 'patent hijacking' whereby new technologies were adopted into the industry standard pursuant to a collective wish to use novel methods but not pay for them. As the original patents reach the end of their lives, the respective actors are coming to the end of an immense number of litigious conflicts which have thus far been resolved largely in favour of Rambus in the United States (US District Courts in Northern District of California,³⁵ Court of Appeal for the District of Columbia,³⁶ Court of Appeal for the Federal Circuit).³⁷ The FTC has formally conceded it will not pursue its claims after having lost before the DC Circuit. Proceedings before the European Commission were concluded in December 2009.

It is easy to agree what should happen at an industry standard-setting body, and to agree that what happened at JEDEC meetings was unsatisfactory. The rules about disclosure of patent inventions were unclear and different participants purported to follow varying interpretations of the rules. It was unclear or disputed whether the chairing of the discussions should reflect the interests of the chairman's employer or higher industry goals. To put it plainly, there was no clear commitment by those who proposed their own technology for incorporation in the standard to grant licences to use that technology on FRAND terms. Had such a principle been in place, 15 years of litigation at a cost of many millions would have been avoided. As is often the case, the participants were not objectively discussing what would be the objectively best technology; they were each pursuing their own respective commercial interest. It is naïve to imagine otherwise, and wise to plan accordingly with appropriate rules. The Rambus story is a perfect example of what can happen if meetings between competitors to discuss technological standards are not competently chaired, well-minuted, governed by clear and sufficiently detailed rules, pursued neutrally with a view to choosing the best

35. Special Verdict Form 26 Mar. 2008 *Hynix v. Rambus*, N.D. Cal. C-00-20905 RMW; Final Judgment of 10 Mar. 2009 *Hynix v. Rambus*, N.D. Cal. C-00-20905 RMW.

36. *Rambus v. FTC*, D.C. Cir. 07-1086.

37. *Rambus Inc. v Infineon Technologies AG*, 318 F.3d 1081, 1098 (Fed. Cir. 2003).

technique, and subject to a well-defined licensing obligation on the proponent of a patented chosen technology.

The European law and practice in this field are arguably better than in the United States, and I turn now to these.

4.2. COOPERATION AMONGST COMPETITORS

4.2.1. **Traditional Treatment of Standard-Setting Organizations under EC Competition Law**

Although there has recently been a surge in competition literature regarding standardization, EC competition law has been dealing with standards for quite some time.

The European Commission's Horizontal Cooperation Guidelines of 2001 contain a section on standardization. Although formal standardization necessarily involves discussions between competitors, the Guidelines provide that in certain circumstances, such agreements fall outside the scope of Article 101 TFEU:

Where participation in standard setting is unrestricted and transparent, standardisation agreements as defined above, which set no obligation to comply with the standard or which are parts of a wider agreement to ensure compatibility of products, do not restrict competition. This normally applies to standards adopted by the recognised standards bodies which are based on non-discriminatory, open and transparent procedures.³⁸

By contrast, where standards may grant the parties joint control over production or innovation, and restrict parties to develop new technologies outside the standards, an assessment under Article 101(3) TFEU will be required.

The Guidelines consider that fostering economic interpenetration creates efficiencies, at least provided that standards are open and adopted in a transparent manner. The Guidelines also stress that standardization should be limited to what is truly necessary to attain quality or compatibility objectives. In other words, members of an SSO should not engage in over-standardization of non-essential technologies. Outside that technology which is essential to implement the patents, competition between competing technologies must remain. Similarly, the inclusion of substitutable technologies in the standard would be questionable where this forces users to take a licence of both whereas only one of the two licences would have been necessary (obviously, if the use of either is allowed by the standard, this would be pro-competitive).

These principles are easy to state and not controversial. Good standard-setting practices are easy to describe but when they are not respected or the unusual happens, it may not be easy to find out the truth or remedy the problem. Fact

38. Horizontal cooperation guidelines, para. 163.

gathering is not what the European Commission is best equipped to perform, and deciding what actually occurred in a specific case may be difficult.

4.2.2. Diverging Participants' Interests

Although the ultimate goal of all the SSO members is the adoption of a high quality standard, the interests of all participants may not necessarily be aligned. SSO members may be in the following categories:

- Portfolio investors who seek royalties over IPRs which they have acquired from the original innovator. Their interest is in getting income. They may choose to seek injunctive relief more readily than those who are in cooperative relationships with licensors or follow competitors.
- Pure innovators: they have invested in R&D and develop new technologies, but do not manufacture products themselves. Instead, they seek to license their technologies to manufacturers. Their income comes through royalty fees for the licences they granted. Their interest is to monetize their creativity, claiming it offers technical superiority to techniques offered 'gratuitously' by manufacturers in barter operations with other manufacturers.
- Manufacturers: while some manufacturers may not conduct R&D themselves, most large vertically-integrated manufacturers will be active both upstream, in research and development, and downstream, in manufacturing. Their manufacturing activities constitute the main source of their revenue, but they may choose to earn revenues from the licensing of new technologies. Alternatively, manufacturers will barter royalty-free licences with each other. Each may have a huge portfolio of patents of varying strengths. The strength of a particular patent may be doubtful, or challenged. Patent litigation is slow and costly (and highly costly in the United States).
- Buyers of the products incorporating the standards may have an interest in influencing the techniques adopted and the price: manufacturers of computers depend for performance on the quality of the components built into the computer.

Pure innovators in these circumstances can be at a disadvantage.³⁹ Buyers have a clear interest in reducing the price of standardized products. The price of the products incorporating the standard may reflect the level of royalties the manufacturers have to pay. Therefore, both buyers and manufacturers may seek to support the adoption of technology that would not be subject to royalties. This would discriminate against technology developed by pure innovators who need to charge royalties to earn income and do not have the possibility to obtain remuneration through the manufacturing of products.

39. D. Geradin & M. Rato, 'Can Standard-Setting lead to exploitative abuse? A dissonant view on patent hold-up, royalty stacking and the meaning of FRAND', *European Competition Journal* 3 (2007): 101.

4.2.3. Patent Ambushes

Patent ambushing consists in the intentional non-disclosure of patents or patent applications during the adoption procedure of a standard. The ambusher's goal is to have the adopted standard match the ambusher's patent portfolio. The ambusher can then get the possibility to charge royalties for every product that implements the standard incorporating the ambusher's IPR.

As a preliminary remark, one may wonder whether such a 'patent ambush' can constitute a competition breach at all in European law in the absence of any monopolization offence. The 'anticompetitive' feature of a patent ambush is more the acquisition of dominance than the abuse of a pre-existing dominant position. National unfair competition legislation may be apt as might Section 5 of the FTC Act also containing unfair competition provisions, but Article 102 TFEU is not an obviously correct vehicle to address the problem. The Commission alleged in the Rambus case that Rambus was abusing its dominant position by claiming (after the adoption of the standard in the early 1990s) royalties it would not have earned, except for the ambush. This indirect theory to make the accusation was necessary since the allegedly abusive practice must be concomitant with dominance. It was difficult to contend that Rambus was dominant at the time of its alleged failure to disclose its patent applications: Rambus had barely 25 employees during the early 1990s when it was promoting its founders' new invention (Rambus's case also presents the interesting question of whether a company can be dominant by reference to its patents when a majority of users of its technology are electing not to pay royalties).

4.2.3.1. The Desirability of Clarity

Clarity in the practice of standard-setting bodies is clearly desirable. However, a review of the disclosure policies promulgated by existing SSOs demonstrates their diversity and lack of clarity.⁴⁰

First, SSO internal rules are sometimes silent on duties to disclose regarding IP rights over candidate technologies, or limit mandatory disclosure to specific circumstances or merely provide for voluntary disclosure. To a congress of judges it may seem shocking that human affairs can be organized so casually, without taking precautions which might avoid disappointment, accusations of bad faith or greedy demands. But life, as judges know, is not organized perfectly.

The absence of any such duty may constitute, surprisingly, a legitimate choice by the SSO. In particular, a disclosure duty generally entails an obligation to search one's IPR portfolio so as to identify the IPRs that must be disclosed. However, this may be so cumbersome, especially for companies with a large IPR portfolio, that administrative efficiency may advocate against imposing such a burden. The European system of patent applications being more public than the US process, this lack of disclosure is less inconvenient than might be supposed.

40. M. Lemley, 'Intellectual Property Rights and Standard-Setting Organizations'. *California Law Review* 90 (2002): 1889.

Patents and filed patent applications are public documents. All SSO members are in theory able to verify whether the technical options proposed for adoption are covered by patent rights. It is true that it might be more efficient to put this heavy burden on the IPR holder himself rather than on all SSO members. However, the cumbersome character of such a duty is precisely one of the reasons why many SSOs do not impose such a duty on their members.

Other considerations weigh against imposing too strict a disclosure duty. Requiring SSO members to disclose unfiled patent application may jeopardize their obtaining of IPR protection. There is a risk that early disclosure might thwart the ‘novelty’ criterion necessary to obtain a patent. Moreover, it might enable competitors to pursue delaying tactics, such as the filing of oppositions or the filing of their own applications. Not yet filed patent applications also constitute very sensitive commercial information regarding the future industrial strategy of a company. Sharing such material could present its own problems.

The scope of the disclosure duty must be clear. Too large a disclosure duty will unreasonably increase the administrative burden and will result in tons of notifications – thus limiting the usefulness of the disclosure. Are SSO members required to disclose relevant patents or also patent applications? (Probably not patent applications that are not yet filed but might be.) What does ‘relevant’ mean? Should the patent claim precisely read on the future standard in order to be disclosable or should it be disclosed if it is simply related to the same technical field?

Are all members under such obligation or does the disclosure duty attach only to members who propose their technology for adoption in the standard? What about members whose technology is proposed by others? When does the obligation arise? At the beginning (when the technology is under discussion), at the time of presentation of the technology to the group, or at the time of voting? The stage of the standardization process at which a company should disclose the relevant IPR is crucial because the draft standard may change over time. As a consequence, the IPRs that a company must disclose will vary too.

Imposing an administrable disclosure duty requires answering all the questions listed above, and this is not an exhaustive list. The delicacy of some of the choices explains why numerous SSOs limit themselves to a vague voluntary disclosure duty, even though this may postpone till later disputes curable by early transparency.

Third, members must be aware of their obligations. In theory, participation in an SSO entails committing to abide by its rules. In practice, however, the company representatives are rarely lawyers. SSO meetings are technical discussions where lawyers would be useless. They are attended by technicians and engineers who may be too little aware of the implications of some commercial or legal or organizational steps or commitments. It is therefore useful to have reminders of the members’ obligations at the beginning of each meeting and on the ballot forms.

I suggest that it would be undesirable to assume that avoiding patent royalties is a sound aim of the standard-setting system. Savings would be passed on to consumers only if the downstream market is very competitive. The reduction of long-term incentives to invent creates an indirect harm to competition. The goal of standardization should be to promote the best available technology and should be

neutral with regard to IPR. Otherwise, there is a risk that standardization becomes a tool to foreclose pure innovators from the market.

4.2.4. FRAND

Let us suppose that the lucky company has proposed its prized technique as the best technical solution for the standard. Let us suppose that the industry has endorsed the choice and that the public have shared, by buying its fruits.

The technique is covered by a patent which has been granted after sceptical examination by patent officials. What fee can the patentee claim for the exploitation of its patented technique? What are the constraints on its appetite for money?

FRAND stands for Fair, Reasonable And Non-Discriminatory. Sometimes, SSOs use only the term 'RAND'. It is usually considered that the addition or removal of the 'Fair' criterion does not make much difference. FRAND commitments are typically imposed on all holders of essential IPRs incorporated into a standard.

The rationale behind imposing FRAND commitments is to solve the so-called 'patent hold-up' problem, where a standard becomes subject to too many IPRs and becomes too expansive (and expensive) due to the royalties that must be paid to each and every IPR holder of essential patents to implement the standard. FRAND can be regarded as a trade-off between the incorporation of a technology in the standard and the compensation of the innovator.

Manufacturers-licensors often enter into reciprocal cross-licensing agreements to keep their outgoings on patent royalties low. This may lead to a race to patent, as a large patent portfolio enables the company to enter into cross-licences without having actually to pay royalties. A huge patent portfolio composed of strong and weak patents may give rise to much uncertainty but strong protection. This may create advantages for those who 'trade' or barter patents free of charge, but may prejudice innovators. Multiplying patent filings without significantly increasing R&D budgets is not a desirable outcome.

I suggest that in the same way as is the case for the duty of disclosure, FRAND terms may be imposed only if the rules are clear and transparent. It seems logical that FRAND terms may be imposed only on members who actually propose the inclusion of their technology in the standard. If it were otherwise, it would give the possibility for SSO members to collude, choose a technology and fix themselves the price at which they want to use it without negotiations with the IPR holder. This would be akin to a buyers' cartel.

Assuming that a FRAND obligation is clearly imposed, the main problem remains the implementation of such FRAND commitments in practice. Competition authorities are reluctant to delve into defining the appropriate royalty rate or other terms that a FRAND licence implies. Nevertheless, as I had argued in another article,⁴¹ it might be necessary for the authorities to adopt a hands-on approach to

41. I. Forrester, 'Sector-Specific Price Regulation or Antitrust Regulation – A Plague on Both Your Houses?', in *European Competition Law Annual 2007: A Reformed Approach to Article 82 EC*, ed. Ehlermann & Marquis (Oxford: Hart Publishing, 2008): 547.

avoid persistent legal uncertainty. However, if competition authorities manage to duck the issue of pricing, courts cannot. Not adjudicating on the issue might constitute an unconstitutional *déni de justice*.

First, the ‘non-discriminatory’ part of FRAND is at first sight relatively obvious, provided that the company has already licensed the technology to third parties. In reality, it is not so evident to determine whether two licences are equivalent. For instance, the duration may differ, one licence may involve a lump sum whereas the other only involves royalties, one licence may be bundled with other IPRs whereas the other is not, and so on. Another much debated question concerns vertically integrated firms: are they obliged to grant licences to third parties on the same conditions as their own affiliates or departments? If so, determining the price actually paid by these internal departments or subsidiaries is far from easy due to the question of transfer pricing.

Second, the ‘reasonable’ or ‘fair and reasonable’ part is even trickier. Determining what is ‘reasonable’ requires carrying out a hypothetical assessment: what would have been the price if the parties had negotiated before the inclusion of the technology in the standard? Putting it differently, even if the technology had not been brought into a standard, its superiority should have earned its take-up by the industry. Without standardization, such technology would still have been largely adopted by the market and the IPR holder would still have been able to charge premium royalties.

US Courts have developed a set of 15 criteria in *Georgia-Pacific* to model *ex ante* negotiations between the IPR holders and future licensees.⁴² These criteria,

42. *Georgia-Pacific Corp. v. US Plywood Corp.* 318 F. Supp. 1116, 1120 (SDNY 1970): ‘A comprehensive list of evidentiary facts relevant, in general, to the determination of the amount of a reasonable royalty for a patent license may be drawn from a conspectus of the leading cases. The following are some of the factors *mutatis mutandis* seemingly more pertinent to the issue herein:

- (1) The royalties received by the patentee for the licensing of the patent in suit, proving or tending to prove an established royalty.
- (2) The rates paid by the licensee for the use of other patents comparable to the patent in suit.
- (3) The nature and scope of the license, as exclusive or non-exclusive; or as restricted or non-restricted in terms of territory or with respect to whom the manufactured product may be sold.
- (4) The licensor’s established policy and marketing programme to maintain his patent monopoly by not licensing others to use the invention or by granting licenses under special conditions designed to preserve that monopoly.
- (5) The commercial relationship between the licensor and licensee, such as, whether they are competitors in the same territory in the same line of business; or whether they are inventor and promoter.
- (6) The effect of selling the patented speciality in promoting sales of other products of the licensee; that existing value of the invention to the licensor as a generator of sales of his non-patented items; and the extent of such derivative or convoyed sales.
- (7) The duration of the patent and the term of the license.
- (8) The established profitability of the product made under the patent; its commercial success; and its current popularity.
- (9) The utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results.

which include comparison with rates charged for equivalent technologies, duration of the licence and expert opinions, are supposed to help a court to substitute itself for the parties and determine what a 'reasonable' price is. However, courts prefer relying on the non-discriminatory element of FRAND: provided that there had been negotiations at arm-length *in tempore non suspecto* between the IPR holder and a licensee, courts take the agreed royalties as the basis of their assessment, rather than modelling a negotiation *in abstracto*.

The issue is further complicated by the fact that FRAND commitments arguably were created to ensure that the total amount of royalties for each standard remains reasonable. Should courts probably take into account the total amount of royalties when determining the reasonableness of the royalties charged for each individual patent right? This is very difficult in practice. Besides the problem of defining what the reasonable total amount of royalties should be, there is the difficult question of fairly distributing the proceeds amongst all the firms claiming essential patents for the standard.

FRAND commitments are currently at the heart of the *Qualcomm* case. Qualcomm is the holder of several IPRs that are essential for a telecommunication standard. It is undisputed that FRAND commitments apply. However, the level of royalties to which Qualcomm is entitled is disputed.

4.2.5. Ex-ante Pricing Negotiations

Another possibility to solve *ex post* disputes between IPR holders and licensees is to organize *ex-ante* royalty negotiations between the parties. Traditionally, competition law has shown uneasiness about pricing discussions between competitors within the framework of an SSO. This was seen as organizing a price-fixing cartel. Nowadays, the position is more nuanced. Competition authorities have recognized that 'joint ex-ante royalty discussions that are reasonably necessary to avoid hold up do not warrant per se condemnation. Rather they merit the balancing undertaken

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- (10) The nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefits to those who have used the invention.
 - (11) The extent to which the infringer has made use of the invention; and any evidence probative of the value of that use.
 - (12) The portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions.
 - (13) The portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer.
 - (14) The opinion testimony of qualified experts.
 - (15) The amount that a licensor (such as the patentee) and a licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both had been reasonably and voluntarily trying to reach an agreement; that is, the amount which a prudent licensee – who desired, as a business proposition, to obtain a license to manufacture and sell a particular article embodying the patented invention – would have been willing to pay as a royalty and yet be able to make a reasonable profit and which amount would have been acceptable by a prudent patentee who was willing to grant a license.'

in a rule of reason review'.⁴³ In other words, there is now a tendency for competition authorities to acknowledge that such negotiations might constitute an adequate tool to avoid problems at a later stage.⁴⁴ In that regard, the US DOJ issued in 2006 a favourable business review letter, clearing the VMEbus International Trade Association's licensing policy which provided for a duty to 'disclose maximum royalty rates' in an irrevocable manner.⁴⁵ One year later, a similar favourable business review letter was granted to the Institute of Electrical and Electronics Engineers (IEEE), which had enacted some rules providing that patent holders who committed to FRAND licensing would also disclose a maximum royalty rate or a sample licensing agreement.⁴⁶

It is argued that if the licensing conditions are known in advance, SSO members may make the most cost-efficient choice for inclusion in the standard. This is probably true, although it may once again favour vertically integrated firms over pure innovators who are unable to get remuneration from the manufacturing of downstream products. Furthermore, such *ex ante* negotiation must be conducted in such a way that it does not amount to a cartel. However, such *ex ante* maximum royalty disclosures can be seen as an appropriate means to cure the perhaps unexpected problems caused by the two other existing solutions, namely patent disclosure duty and FRAND commitments.

4.2.6. Enforceability as against Third Parties

SSOs lack enforcement powers. At most, SSOs may have some enforcement powers towards their own members or have the possibility to modify the standard (yet, this might be very unsatisfactory in industry characterized by important switching costs and lock-in effects).

43. D. Platt Majoras, Chairman, Fed. Trade Comm'n, Recognizing the Procompetitive Potential of Royalty Discussions in Standard Setting, address at Standardization and the Law: Developing the Golden Mean for Global Trade 7 (Stanford University, 23 Sep. 2005), <<http://www.ftc.gov/speeches/majoras/050923stanford.pdf>>.

44. See D. Meyer, DAAG at the Antitrust Division of the US DOJ, 'How to address "hold up" in Standard Setting without deterring innovation: Harness innovation by SDOs', Speech given at ABA Section of Antitrust Spring Meeting (Washington, DC, 2008), available at <<http://www.usdoj.gov/atr/public/speeches/234124.htm>>: '*if standards users see antitrust as a crutch that will protect them every time hold up occurs, they might refrain from taking steps to address the hold-up concern ex ante, via the SDO process, even though ex ante efforts likely provide a more effective way to deal with hold up than the threat of ex post antitrust liability*'. See also G. F. Masoudi, 'Efficiency in analysis of antitrust, standard setting, and intellectual property', Speech given at High-Level workshop on standardization, IPR licensing and antitrust (Brussels, 2007).

45. Letter from Thomas O. Barnett, Assistant Att'y Gen., U.S. Dep't of Justice, to Robert A. Skitol (30 Oct. 2006), <<http://www.usdoj.gov/atr/public/busreview/219380.pdf>>; see also Press Release, U.S. Dep't of Justice, Justice Department Will Not Oppose Proposal by Standard-Setting Organization on Disclosure and Licensing of Patents (30 Oct. 2006), <http://www.usdoj.gov/atr/public/press_releases/2006/219379.pdf>.

46. Letter from Thomas O. Barnett, Assistant Att'y Gen., U.S. Dep't of Justice, to Michael A. Lindsay (30 Apr. 2007).

However, what if a member withdraws from the SSO? Arguably, FRAND commitments given at the time of the incorporation of the technology in the standard should continue to apply. Provided that there was a clear disclosure duty, such FRAND commitments may possibly be imposed for all IPRs covered by the disclosure duty at the time of membership. By contrast, it does not seem reasonable to impose FRAND commitments as to technology that fell outside the disclosure obligation, either because it was not materially covered or because the company withdrew before the disclosure duty arises. Regarding the second case, it might be different if the company joins again the SSO after adoption of the standard.

Where IPR is transferred to a third party not a member of the SSO, the question arises as to whether this third party is bound by the FRAND commitments given to the SSO. In the US, the question has been answered in the affirmative. In *N-Data*, the transferee was held to be bound by the FRAND commitments made by the original IPR holder.

SSO internal rules can be enforced against SSO members through contract law. However, third parties are usually not liable for breach of an agreement to which they were not party. Under contractual law, only in special circumstances can third parties be liable for intentionally helping to breach a contractual obligation to which they are not parties (*tierce complicité*).

Another solution would be to consider that FRAND commitments remain attached to the IPR, like a servitude may remain attached to land after it has been conveyed to a new owner. However, this would demand considering FRAND commitments as a *droit réel* and may depend on whether the acquirer is bona fide or not.

In Germany, a court has recently concluded that it can be considered reasonable from a competition viewpoint to give the patent owner discretion to determine the fee.⁴⁷ It also analysed the competition defence presented by a company willing to use the patented technology. The court held that the mere fact for that company to make an offer to the patent holder does not imply an authorization to use the patented technology. For the company to be able to invoke the competition defence and claim that the patent holder is violating competition law by setting too high a royalty rate, the would-be user must either have already entered into a licence agreement with the patent holder, or at the very least determine the reasonable licence fee objectively and pay or at least deposit the hypothetical licence fees.

An interesting controversy has arisen concerning mobile phone technology, more specifically a technique to identify privileged users of mobile phone networks in times of emergency to ensure that when signal capacity is scarce certain numbers, such as police and emergency callers, get privileged access.

That was one of a number of patented techniques developed and patented by Bosch in the ETSI (European Telecommunications Standards Institute) standard-setting body. The choice of the technology was based in part on a FRAND commitment by Bosch. Subsequently Bosch decided to leave the mobile phone business and the patent portfolio was sold to a newly created company whose founding shareholders had links with Bosch. The new holders of the patent

47. German Federal Supreme Court, 6 May 2009, Orange Book Standard case (KZR 39/06).

portfolio have been claiming remarkable sums of money (tens, hundreds, even billions of Euros) from mobile phone. The FRAND commitments appear to have been vapourized upon the transfer to ICom by Bosch.

The problem is easy to identify. But what is its solution? Article 101, Article 102, national unfair competition law or contract law? These interesting matters await a convincing resolution.

5. CONCLUSION

Standards constitute an integral part of modern life. Competition law has to deal with this reality. Standardization, whatever its aim or process, is not immune from antitrust. However, competition law should not become the privileged instrument to regulate SSOs. The priority should be to encourage SSOs to adopt clear rules and implement them in practice.

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