The interplay between IP rights and competition law in the context of standardization

Piotr Staniszewski*

> People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices
>
> Adam Smith, *Wealth of Nations*

Key issues

- Public and industrial demand for interoperability means that manufacturers of telephones, audio equipment, and other products have an absolute commercial need to make goods that can be used with the products of others. This demand can be met by the standardization of technical norms.
- Where technical standards are set, the treatment of individual exclusionary IP monopolies becomes an issue, particularly where a member of a standard-setting body may be able to derive a potentially unfair benefit from the licensing of its proprietary technologies.
- This article reviews the interface between competition principles and IP law as it governs the standardization process, taking a close look at phenomena such as patent ambush and the level of disclosure of current and future technology by members of standard-setting bodies.

The interplay between IP and competition law has been present in legal debate and case law for many years. In European Community law, the crucial issues continue to revolve around the content of licensing agreements[1] and refusal to license in the context of abuse of a dominant position. In cases such as *Volvo v Erik Veng*,[2] *Magill*,[3] *IMS Health*,[4] and more recently *Microsoft*,[5] the European Commission and the European Court of Justice sought to limit the scope of exercise of IP rights in order to create 'a system ensuring that competition in the internal market is not distorted'.[6] However, the result of those attempts was the doctrine of 'exceptional circumstances'[7] whereby only in special circumstances could competition law intervene against IP rights.

A theoretical obstacle and the source of controversy between IP and competition lawyers is the monopolization inherent in IP rights. By their nature, IP rights are intended to confer monopoly power to the holder. Therefore, respecting this principle, it is accepted that competition law might generally intervene only at a subsequent stage of exercise of those monopoly rights.

There may be, however, an important exception to this rule. Case law and doctrine may have to tackle a question of abuse different to abuse of monopoly power resulting from a patent itself. Its source lies in deceitful behaviour intended to enhance the holder's chances of achieving a patent-based monopoly position over significant parts of markets through the actions of standard-setting organizations—bodies of great importance in the global economy. The role of such standard-setting organizations is to seek to steer a middle course between various technical solutions proposed in the standardization process by various actors on the market, establishing a technological standard which, once approved, helps achieve interoperability and transparency, allowing penetration into multiple markets.

In innovative and competitive economies,[8] the role of standards cannot be underestimated; nor should the measures be taken deceitfully to influence the standardization process and the need to devise appropriate countermeasures such as IP right disclosure or pre-agreed RAND licensing.

The disclosure of patents and patent applications contemplated in standard-setting organization regulations,

* Associate at CMS Cameron McKenna in Warsaw. Email: piotr.staniszewski@cms-cmck.com.

1 In particular those involving exclusivity clauses, eg Case 258/78 *Nungesser v Commission* [1982] ECR 2015.

2 ECJ Case 238/87 *AB Volvo v Erik Veng (UK) Ltd* [1988] ECR 6211.

3 ECJ Joined Cases C-241/91P and C-242/91P *Radio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP) v Commission* [1995] ECR I-00743.

4 Case C-418/01 *IMS Health Inc. v Commission* [2004] ECR I-5039.

5 Case T-201/04, pending before the Court of First Instance.

6 Art 3(g) EC.

7 Paras 49 and 50, 53–56 of *Magill* (see note 2).

8 C Ahlborn, D Evans, and A Padilla, 'Competition Policy in the New Economy: Is European Competition Law Up to the Challenge?', [2001] ECLR 160.

to neutralize the threat of misuse and deceit, is also important in terms of patent law. Disclosure of IP rights entails a risk that a competitor, once informed of the invention, may seek to use such information in order to obtain patents for improvements which the applicant might itself have invented, had the information been kept confidential.[9]

Patent law, however, contains measures which may help to limit the effects of abuse. For instance, IP enforcement may be inhibited in the light of circumstances attributable to the party seeking to enforce his rights: the common law 'doctrine of clean hands'[10] prohibits benefiting from gains from patents obtained unlawfully. Therefore, IP law has, in certain situations,[11] a response to these problems.

This article seeks to describe the question of deceitful influence over the standardization process ('patent ambush') from a competition law perspective, also exploring some current solutions that may be applied to it.

Standardization in the context of competition law

Character of standardization

In recent years, standardization has become increasingly important. Through compatibility standards, the products and services of different manufacturers and providers are able to communicate and interact in the network environment.[12] Standards also allow the global sale of identical products by reducing the transaction costs of adjusting goods to differing national or regional norms, also providing information upon which consumers can compare the quality and safety of products and their intended use.[13]

Despite apparent production benefits, successful standardization may disadvantage consumers by reducing the incentive to innovate and increasing switching costs.[14] Those problems may be balanced by the benefits which standardization brings through increased transparency of the market, facilitating easier comparison of products, and product systems.[15] Secondly, consumers may also benefit from increased interoperability within product systems and between systems using different but compatible standards. Finally, standardization may promote use of a technology which brings additional benefits (for instance by introducing a low-emission fuel standard which promotes a clean environment).

From the economic point of view, three processes of standardization may be identified: non-co-operative behaviour, co-operative behaviour, and government action.[16] With non-co-operative behaviour, competitors offer products representing different standards, the choice between them being made by the market (for instance competition for a home video standard between VHS and Beta). Many standards in computer software derive from programs produced and marketed by software companies winning a position of a *de facto* standard. In a market characterized by 'network effects', a network gains help to create a 'snowball effect' which accelerates the process of standardization. In certain markets, increased popularity of the primary product (for instance a PC operating system or GSM mobile phone) fosters creation of a secondary market (for system applications or mobile phone ring tones, wallpaper, etc.). Lastly, standardization is evident in intrabrand competition, as distributors compete for sales of the primary (and secondary) products. Consequently, the manufacturer of the product which inspired creation of the *de facto* standard will enjoy a strong position on the market, possibly even a position of market power or dominance. A side effect of this strong position will influence competition in secondary or neighbouring markets.

While non-co-operative behaviour is an *ad hoc* process, the other two methods are centralized and take place through standard-setting organizations. In co-operative behaviour, market participants come together and develop standards through committees, voting on proposals based on their discussions (examples include the TCP/IP protocol).[17] This form of standardization is

9 This argument was raised by Rambus in proceedings before the FTC (discussed below).

10 Confirmed in *Juno Online Serv. v Juno Lighting*, Inc., 979 F. Supp. 684 (N.D. Ill. 1997).

11 US patent case law also denies patent protection in the event of deceitful manipulation of the standardization process, examples include: *Stambler v Diebold*, 878 F.2d 1445 (Fed. Cir. 1989); *Wang Laboratories, Inc. v Mitsubishi Electronics America, Inc.*, 103 F.3d 1571, 1582 (Fed. Cir. 1997).

12 Werle R. Institutional aspects of standardization—jurisdictional conflicts and the choice of standardization organizations. *Journal of European Public Policy.* 2001: 393.

13 Balto D. Standard setting in the 21st century network economy. *The Computer & Internet Lawyer.* 2001; 18: 1.

14 MJ Hinshaw, ibid, p. 307.

15 Hofer P, Williams M, and Wu L. Competition policy analysis in complex markets: switching costs, aftermarkets and network effects. *The Asia-Pacific Antitrust & Trade Review.* 2006: 11–12.

16 Hinshaw MJ. The role of standardization and interoperability in copyright protection of computer software. *Commercial Law and Policy.* 1999; 4: 304, referring to works of Bensen S and Johnson L.

17 Standards relating to Internet were and are developed through a private body—the Internet Engineering Task Force (IETF) and in separation from official (public-sponsored) standardization organizations. Many of commonly used standards are first developed by independent SSOs and only subsequently accepted by IETF, for instance: WWW (established by W3 Consortium) or VoIP (established by VoIP Forum). IETF established first links with public-sponsored standardization organizations only in 2001.

essentially private and involves participants who regularly compete with each other, a feature which necessarily gives it great importance under competition law. Under the third method, a government authority mandates drafting, adoption, or use of certain standards (for example those of the International Organization for Standardization). International government-sponsored standardization authorities may also develop standards, as was the case of the NMT[18] standard developed by Nordic Teleconference, an international forum of Scandinavian postal and telecom regulators. Later, the GSM[19] standard was developed through international co-operation initiated within the Conférence Européenne des Postes et Télécommunications (CEPT).

Regardless of the background of a given standard-setting organization, in both private and public forms the representatives of market players influence the standardization process considerably and constitute its essential parties. They ultimately determine where product manufacture in accordance with the standard lies and bear the economic risks involved. They are also the parties with the best technological know-how and knowledge of its practical application.

Both in co-operative behaviour and government-sponsored process, two types of procedure are available: open and closed. Closed process involves a limited number of participants (usually lower than the total number of market players). Participation in an open process is available to parties meeting predefined criteria; not necessarily industry members but also other constituencies. The open standardization process generally raises fewer competition law concerns, given its transparency and defined rules of participation.

The role of standard-setting organizations

Standard-setting organizations establish a forum for the collective adoption of standards. Through standard-setting organizations, producers of different goods and services who are interested in technological interdependence may co-ordinate specifications with one another on a global or regional scale.

In the USA, the most common standard-setting device is the private model.[20] Public-sponsored standard-setting organizations are less popular but also play an important role. Most often, government-sponsored standard-setting organizations will be formed *ad hoc* to develop a standard for a particular need.

In the European Union, the most important standard-setting organizations operate under the European Standards Organization Directive 98/34.[21] The main role in standardization is currently played by the three official (public-sponsored) organizations:[22] the European Telecoms Standardisation Institute (ETSI), the European Committee for Standardization (CEN), and the European Committee for Electrotechnical Standardization (CENELEC). All three are essentially public but also include wide representation from the industries concerned. Apart from these three, government-sponsored standard-setting organizations exist throughout the European Union member states.

In the EU context, since the birth of the 'New Approach' towards harmonization in 1980s,[23] standards serve as the medium for integration of the common market, ensuring smooth application of the free movement of goods principles of the Treaty establishing the European Community.

Regardless of the work conducted within ETSI, CEN, and CENELEC and national bodies, private standard-setting organizations also play an important role.[24] Typically European private organizations are formed initially to develop common standards for the European market in order to defend incumbent producers from Asian or US-based competition. These private European standardization forums are subsequently extended to include Asian and American manufacturers.

Setting up standard-setting organizations

Standard-setting organizations usually exist in one of three basic forms. First, they may constitute an *ad hoc* meeting of enterprises interested in jointly creating and marketing a technology standard.[25] In many instances, such *ad hoc* standard-setting organizations will be formed as joint ventures to license the common standard to other market participants to benefit the shareholders who established it. The *ad hoc* form is less interested in extracting royalties from contributed IP

18 Nordic Mobile Telephone.

19 Group Spécial Mobile.

20 Naughton M and Wolfram R. The antitrust risks of unilateral conduct in standard setting in the light of the FTC's case against Rambus Inc. *The Antitrust Bulletin*. 2004; Fall: 699.

21 OJ 1998 L 204 /37.

22 In the European Commission Guidelines on the applicability of Art 81 of the EC Treaty to horizontal co-operation agreements (OJ 2001 C 3/02, para 162), those three organizations enjoy the status of bodies entrusted with the operation of services of general economic interest.

23 Announced in 'Technical harmonisation and standardisation: a new approach' [COM(1985)19 final—Not published in the Official Journal].

24 Eg European Computer Manufacturers Association (ECMA) or European Standards Promotion and Application Group (SPAG), or X/Open Group (discussed below).

25 Eg the process of development of the new DVD standard, the Blu-ray by the Blu-ray Disc Association, comprising 170 members globally and including Royal Philips Electronics, Sony Corporation, Apple Computer, Inc., Dell Inc., Hewlett Packard Company, Twentieth Century Fox, Walt Disney Pictures and Warner Bros. Entertainment.

rights, than in successfully marketing products which incorporate the standard. There are fewer problems of patent ambush and reasonable and non-discriminatory (RAND) licence terms in activities of this type.

The second form is a government-sponsored (public) permanent standard-setting organization. These are more complex forms, anchored in legislation and combining different constituencies which together draft standards which are endorsed by public authority.[26]

The third group, most prevalent in the USA, are private permanent standard-setting organizations, such as JEDEC or VESA. Like the previous example, they gather participants of different degrees of influence on the market. The attractiveness of the standard adopted by such private standard-setting organizations is derived from wide industry representation and not necessarily from public endorsement.

Functioning of a standard-setting organization

Generally, standard-setting organizations serve a useful function and do not draw the attention of national competition authorities. Their common goal is to adopt and promote a standard which does not involve anyone's IP or, where they do involve such proprietary information, to ensure that the IP right holder licenses his rights on RAND terms.[27] Consequently, IP rights held by participants of a standard-setting organization which cover the standard being drafted should be adequately disclosed to fellow members, thus helping to limit possible undue benefits conferred on IP rights holders.

The questions of adequate disclosure and establishment of RAND terms should be addressed in a standard-setting organization's regulations.[28] Observance of those rules is crucial for the existence and operations of standard-setting organizations as in their absence, market participants' incentives to join standard-setting organizations are reduced.

From the participants' perspective, extensive disclosure regulations may not always be welcome. Participants, who usually hold a full portfolio of patents and applications, may try to limit disclosure in order to protect their competitive position vis-à-vis other market participants. Further, too extensive an exchange of information may lead to allegations of entertaining concerted practices. Again, the participants may seek undue advantage from the exchange of information during forum meetings or influence decision-making process for improper purposes.

Standard-setting organizations and competition law

Despite many advantages of standardization, its primary vehicles—standard-setting organizations—may also cause competition law concerns:

(i) standard-setting organizations may serve as a forum for illegal collusion;

(ii) participants may illegally exclude other market members from participation;[29]

(iii) participants may exclude other market members from access to information required to employ the standard.[30]

The exchange of information, which forms an essential part of standard-setting organizations' activities, may itself give rise to competition law concerns where they may enable or facilitate collusion (whether by agreement or indirectly as concerted practices),[31] such as information about prices and costs of production.[32] Limited numbers of market participants only amplify concerns of possible anticompetitive behaviour, the probability of reaching a tacit agreement over prices or market conditions being higher in oligopolistic markets. Thus, any co-operation between oligopoly participants in standard-setting organizations should be treated delicately.

Exchanges of information may also have other consequences if an illegal cartel is discovered. Since it is harder to cheat on a cartel once it is in operation and the exchange of information takes place through a separate entity (such as the standard-setting organization), those organizations may actually prolong cartels by reducing opportunities for break-up.[33] Institutionalized exchange of information also facilitates retaliation

26 Eg California Air Resources Board or European standardization bodies: ETSI, CEN, CENELEC.

27 M Naughton and R Wolfram, ibid, p. 702.

28 Clauses 3.2 and 4 of ETSI IPR Policy (annex to ETSI Rules of Procedure), version dated 23 November 2005 or Clause 3.8 of VESA Policy No. 235A, Procedure for Generation of VESA Specifications approved 23 May 2006 and Clause 4 of VESA IPR Policy, approved 7 December 2004.

29 As in the US case *Allied Tube & Conduit Co. v Indian Head Inc.*, 486 US 492 (1988).

30 D Balto, ibid, p. 3.

31 Defined by the ECJ in the dyestuffs case, Case 48/69 *ICI v EC Commission* [1972] ECR 619, item 64, as a 'form of co-ordination between undertakings which, without having been taken to the stage where an agreement properly so called has been concluded, knowingly substitutes practical co-operation between them for the risks of competition'.

32 Bissocoli E. Trade associations and information exchange under US antitrust and EC competition law. *World Competition*. 2000; 23: 82; the ECJ emphasized the role of communications between the market participants in establishing the cases of illegal concerted practices in *Ahlström v Commission* 89/85[1988] ECR 5193.

33 E Bissocoli, ibid, p. 84.

against the member who intends to cheat on the cartel. Transparency of information sources makes it easier to identify the disloyal member.

Standard-setting organizations and agreements reached within the organization, as well as information exchange, may also be analysed as 'facilitating practices',[34] these being the contents of ancillary agreements which may be challenged together with anticompetitive conduct because of their ability to 'pave the way' for infringements of competition law.[35] In this context, the US and European Union enforcement authorities have focused on influencing the rules of the standardization process[36] in order to prevent its abuse and consequent breach of competition law. Successful prevention limits the possibilities of employing facilitating practices through standard-setting organizations.

Whether or not they serve as co-operation forums to facilitate illegal collusion, standard-setting organizations may also face allegations of other violations of competition law, such as illegal boycotts. In *Rambus* (discussed below), the judge warned that 'refusing to include patented technology in industry standards may subject standard setting organizations to antitrust claims and denies consumers superior products'.[37] The danger of a group boycott is apparent when standard-setting organizations promote a policy of simply refraining from including proprietary solutions in the developed standards.[38]

Patent ambush

'Patent ambush' occurs when participants refrain from disclosing patents and/or applications connected with the standards drafted by a standard-setting body. It may also be committed by gathering information during committee meetings regarding future standards being developed, then later filing or amending patent applications based on this information.

Once the undisclosed patent is inserted into the standard or an application is amended to reflect the stipulated solutions, the participant usually waits until the standard gains popular recognition in the market. This brings the effect of increased switching costs and the 'locking in' of competitors and other manufacturers into that standard.[39] Only then will the participant disclose the patent included in the standard, claiming royalties and/or licence fees. At this point, the participant will already have certain market power conferred by the IP rights in question, possibly augmented by lack of competitive or alternative technologies. For the ambushing member it is clear that any patent essential for implementation of the standard will have a higher value following adoption of the standard than it would have if disclosed during the standardization process.[40] The patent is essential when it is not possible to invent around the technical solution while maintaining the characteristics of the standard (eg operability and interconnectivity).

Not all standard-setting organizations require full disclosure of patents and applications held or filed by its participants. The US standard-setting body JEDEC[41] updated its relevant regulations towards extensive disclosure in 1993;[42] ETSI did so only after intervention of the European Commission in 2005.

United States antitrust law

Section 2 of the Sherman Act addresses unilateral anticompetitive behaviour of market participants by prohibiting actual or attempted monopolization. Monopoly power is held to exist if a company holds a market share of 80 or 90 per cent.[43] However, the courts may accept lower market shares—or even no proof of market share at all—provided negative effects on the market are proven. On the contrary, evidencing easy entry on the market may help rebut the presumptions connected with market thresholds.[44]

In the US market, power may be defined as the 'power to control prices or exclude competition'.[45] Its components are both the market share held by an undertaking and the influence it may exert over prices, output, and/or innovation.

34 Grillo M. Collusion and facilitating practices: a new perspective in antitrust analysis. *European Journal of Law and Economics*. 2002; 14: 153.

35 In the UK Tractors decision the Commission ruled on the exchange of information being illegal in light of Art 81 EC United Kingdom Agricultural Tractor Registration Exchange, Commission decision 92/157, OJ L 68/19 [1992].

36 Inter alia by emphasizing the need of adequate disclosure rules and RAND terms and royalties discussed in this article.

37 Initial Decision of Administrative Judge Stephen M. McGuire, 23 February 2004 in *FTC v Rambus Inc*., docket no. 9302, p. 262.

38 Haug T. A commentary on standardization practices: lessons from the NMT and GSM mobile telephone standards histories. *Telecommunications Policy*. 2002; 26: 106.

39 Opinion of the Commission in *Rambus, Inc*., docket no. 9302, 2 August 2006, p. 4.

40 G Ohana, M Hansen, and O Shah, 'Disclosure and Negotiation of Licensing Terms Prior to Adoption of Industry Standards: Preventing Another Patent Ambush?' [2003] ECLR 644–645.

41 JEDEC Solid State Technology Association; formerly, the Joint Electron Device Engineering Council.

42 Petritsi E. The case of unilateral patent ambush under EC competition rules. *World Competition*. 2005; 28: 26.

43 *US v Aluminum Co. of America*, 148 F2d 416 (1945).

44 *Los Angeles Land Co. v Brunswick Corp*., 6 F. 3d 1422 (9th Cir. 1993).

45 *United States v E.I. du Pont de Nemours &Co*., 351 US 377, 391 (1956).

Unlawful monopolization requires market power and exclusionary or anti-competitive conduct.[46] Generally, conduct is exclusionary when it serves no legitimate purpose or does not bring profit and was undertaken with the sole purpose of excluding or weakening competitors in anticipation of recouping future supra-competitive profits.[47]

Monopolization involves conduct capable of further creating, maintaining, and expanding market power by reducing the opportunities of competitors.[48] Such conduct should not bring benefits for consumers, or must be unnecessary to bring such benefits. If the relevant conduct does bring benefits, these should be proportionate to harm inflicted.

Monopolization involves conduct capable of further creating, maintaining, and expanding market power by reducing the opportunities of competitors

Where exclusionary conduct is defined by reference to antitrust duties and standards, the legal standard for a monopolization claim is whether this conduct violates pre-existing antitrust standards.[49] The FTC highlighted that

> [e]xclusionary conduct such as deception may distort the selection of technologies and evade protections designed by [standard-setting organizations] to constrain the exercise of monopoly power, with substantial and lasting harm to competition.[50]

The courts apply a rule of reason which may serve as a defence for a company accused of anti-competitive conduct. For this rule to apply, the company must argue successfully a pro-competitive justification of its conduct in that it competes on the merits, its conduct bringing efficiencies.

Causation between the alleged exclusionary conduct and the maintenance or attainment of market power must also be proved. The extent to which this causal link may be inferred or assumed from alleged anticompetitive conduct is debatable.

In the context of misrepresentations during the process, directed at the standard-setting organizations in general and patent ambushes in particular,

> an antitrust plaintiff must establish that the [standard-setting organization] would not have adopted the standard in question but for the misrepresentation or omission ... because the failure to disclose the existence of a patent to a standard-setting organization will not affect the competitive marketplace if the standard-setting organization would have approved the standard even if it had known about the patent.[51]

An attempt to monopolize is an offence where specific intent[52] to control prices or destroy competition is proved.[53]

Beyond purely antitrust claims based on section 2 of the Sherman Act, section 5 of the Federal Trade Commission Act empowers the FTC to prevent the use of 'unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce'.

Dell Inc.

In 1995, the first US federal action for alleged unilateral subversion of a standard-setting process and anticompetitive effect was taken against Dell. The alleged infringement consisted of providing misleading information to a standard-setting organization, then seeking benefits from undisclosed IP rights included in the standard.

This alleged infringement began with a written statement of a representative of Dell made to the Video Electronics Standards Association (VESA) during the standard-drafting process that, 'to the best of his knowledge', Dell had no patents for the proposed new standard of VL-bus. Following dissemination of the standard adopted, Dell threatened to claim royalties from companies using it. FTC claimed that the Dell's conduct 'unduly restricted competition and caused anticompetitive harm' by discouraging companies (in particular VESA members against whom the threats were directed) from using that standard. Consequently, Dell's conduct was capable of hindering industry acceptance of it.[54]

46 E Petritsi, ibid, p. 38.

47 *Aspen Skiing Co. v Aspen Highlands Skiing Corp.*, 472 US 585, 610–611 (1985); *Advanced Health-Care Servs. v Radford Community Hosp.*, 910 F 2d 139, 148 (1990 4th Cir.).

48 E Petritsi, ibid, p. 38.

49 *Verizon Communications v Trinko* 124 S Ct 872, 879 (2004).

50 Opinion of the Commission, *Rambus, Inc.*, docket no. 9302, 2 August 2006, p. 33.

51 Lemley M. Intellectual property and standard setting organizations. *California Law Review.* 2002; 5: 70.

52 In contrast to US law, Art 81 and 82 EC do not require an element of intention to prove anticompetitive conduct.

53 *Swift & Co. v US*, 196 US 375; and *Spectrum Sports Inc. v McQuillan*, US 113 S Ct 884.

54 *Dell Computer*, 121 FTC 616 (1996), FTC docket no. C-3658.

The FTC warned that if a standard-setting organization 'requires that its members disclose any of their intellectual property that might relate to a standard being proposed by the standard-setting organization – at least to the extent that the member knows that it owns the intellectual property – then the failure to make such disclosure may trigger liability for unfair competition under section 5 of the FTC Act'.[55] The FTC complaint did not, however, employ standard antitrust rules, failing to define the relevant market, the market share, causation, or intention.

The case was eventually settled by consent. Dell dropped its patent infringement claims and agreed to refrain from seeking royalties from companies using patented technology.

Rambus Inc.

Rambus was involved in the design, licensing, and marketing of high-speed chip-connection dynamic random access memory (DRAM) to downstream manufacturers. DRAMs in their various modifications were and are widely used in personal computers.

Rambus was a member of JEDEC, a standard-setting organization concerned with adopting open standards in the area of semiconductors. In the FTC's interpretation (as supported by JEDEC), JEDEC's rules and procedures, imposed upon members the following duties:

(i) to disclose any patents or applications that the applicant believed 'might' involve technology being considered for inclusion in a standard;

(ii) to identify the aspect of JEDEC's work to which such patents or patent applications related;

(iii) to state whether it would license the technology royalty-free or on RAND terms, if the technology covered by a member's known patents or patent applications was proposed for inclusion in a standard endorsed by JEDEC.

In 1999, when the JEDEC standard for the JC-42 Synchronous DRAM was the most widespread standard for computer use, Rambus claimed royalties for patents on solutions included in JC-42.

Rambus Inc. v Infineon

Also in 1999, private litigation of *Rambus v Infineon*[56] commenced for patents infringement. On the counter-claim of Infineon, the first instance court found Rambus liable under Virginia law for fraud and constructive fraud on the grounds that Rambus failed to disclose to JEDEC patents claims that it had secretly and intentionally drafted to cover proposed JEDEC standards.[57] This decision was reversed by the court of appeals, which stated that the duty to disclose was not communicated to JEDEC members in a manner which would give rise to liability for fraud or constructive fraud under Virginia law. However, the court stressed the prominent role of the standard-setting organization's rules in defining the scope of duties of disclosure and licensing. Contrary to VESA rules applicable in *Dell*, JEDEC did not require a written statement on patent disclosure. On appeal to the Federal Circuit court, however, Judge Payne admitted (albeit orally and without formally closing the case) that Rambus appeared with 'unclean hands'.[58] The case was settled in 2005.

FTC v Rambus Inc.

Extending the scope of alleged infringements beyond *Dell*, in *Rambus* FTC accused Rambus not only of unfair competition by subverting JEDEC's standard-setting process but also of actual or attempted monopolization in markets for technological features for design and manufacture of DRAMs.[59] The FTC alleged that Rambus intentionally failed to disclose to JEDEC that it held patents and filed applications covering technology contemplated for inclusion in the standard, thereby breaching the standard-setting organization's internal rules on disclosure, and the general obligation of good faith dealing. Rambus' representative to the JEDEC's meetings not only failed to disclose its IP rights but also gathered information which was later used to amend Rambus' pending patent applications.

The FTC's initial decision was rejected by the Administrative Law Judge (ALJ) McGuire, whose reasoning revolved around the FTC's failure to pin infringements committed by Rambus to specific provisions of antitrust law. He said:

> Section 5 [of the FTC Act] has never been implemented to impose a general duty on corporations that participate in standard-setting organizations to comply with the rules of the standard-setting organization, to disclose their patent applications or to act in good faith toward their members.

55 M Naughton and R Wolfram, ibid, p. 705.

56 *Rambus Inc. v Infineon Technologies*, 164 F. Supp. 2d 743, 746 (E.D. Va. 2001), rev'd in part, aff'd in part, and remanded, 318 F.3d 1081 (Fed. Cir. 2003); cert, denied, 124 S. Ct. 227 (2003).

57 *Rambus Inc. v Infineon Technologies*, 164 F. Supp. 2d 743, 746 (E.D. Va. 2001), rev'd in part, aff'd in part, and remanded, 318 F.3d 1081 (Fed. Cir. 2003); cert, denied, 124 S. Ct. 227 (2003) and M Naughton and R Wolfram, ibid, p. 712.

58 Opinion of the Commission, *Rambus, Inc.*, docket no. 9302, 2 August 2006, p. 19.

59 Administrative complaint in *Rambus Inc.* dated 18 June 2002, FTC docket no. 9302.

Further, the complaint lacked 'clear and unambiguous' evidence of a duty to disclose, exceeding the mere encouragement to disclose essential IP rights endorsed by JEDEC. Regarding the monopolization claims, ALJ McGuire found that Rambus had legitimate business reasons to pursue its conduct in protecting the confidentiality of its patents. Rambus had the right to amend its pending patent applications. However, the business justification and the patent amendment defence were accepted only on the grounds that the JEDEC rules on those subjects were unclear and the scope of duties by which its members were bound was difficult to define. There was no evidence of intent to mislead or deceive the JEDEC. Finally, the causation element was lacking as FTC did not provide evidence that 'Rambus acquired monopoly power by virtue of JEDEC's standard setting and it failed to show that, but for Rambus conduct, JEDEC (and the market) would have chosen an alternative to Rambus' technology'.

However, reversing the ALJ's decision on appeal, the FTC found that Rambus

> engaged in exclusionary conduct that significantly contributed to its acquisition of monopoly power.... By hiding the potential that Rambus would be able to impose royalty obligations of its own choosing, and by silently using JEDEC to assemble a patent portfolio to cover the ... DRAM standards, Rambus' conduct significantly contributed to JEDEC's choice of Rambus technologies for incorporation in the ... DRAM standards and to JEDEC's failure to secure assurances regarding future royalty rates – which, in turn, significantly contributed to Rambus' acquisition of monopoly power.[60]

The FTC declined to delve into details of by-laws of standard-setting organizations: in the absence of any rules on disclosure, participants cannot be 'free to lie' or mislead the fellow members. By virtue of the decision, Rambus' conduct was held to violate both section 2 of the Sherman Act and section 5 of the FTC Act.

On 2 February 2007, FTC issued a remedy decision, ordering Rambus to cease lying to standard-setting organizations accompanied by compulsory licensing at a fixed rate applying to SDRAM and DDR SDRAM products incorporating Rambus patents.

Unocal

A case similar to *Rambus* and *Dell*, but involving a government-sponsored standardization process concerned Union Oil Company of California (Unocal), a participant in the scheme for low-emission gasoline drafted by a state agency—California Air Resources Board (CARB). The company adjusted its patent claims following discussions and manipulated the process towards adoption of its proprietary technology.

After the standardization process was concluded, Unocal claimed against the oil companies for patent infringement. The FTC accused[61] the company of providing a 'materially false and misleading impression that Unocal had relinquished or would not enforce any proprietary interests in its emissions research results'. Unocal also failed to disclose that it had pending patent applications on those research results.

The FTC claimed that Unocal concealed information in order to induce CARB to adopt regulations that substantially overlapped with Unocal's patents, and that Unocal 'actively participated in the CARB ... rulemaking proceedings and engaged in a pattern of bad-faith, deceptive conduct, exclusionary in nature that enabled it to undermine competition and harm consumers'. Unocal was also accused of illegally acquiring monopoly power in the technology market for producing 'summer-time' gasoline compliant with requirements of CARB and in the downstream product market for this CARB-compliant gasoline produced and supplied for sale in California.

The case was dismissed by the court on the basis of the *Noerr Pennington* doctrine: Unocal's conduct constituted 'protected petitioning of a governmental authority'. In light of a line of the US Supreme Court case law,

> efforts to petition a government entity for any type of redress, including attempts to influence government agencies to take certain action or to enforce intellectual property rights through the litigation process, enjoy immunity from antitrust scrutiny.[62]

The proceedings ended with consent orders in which Unocal agreed not to enforce its patents reading on 'summertime gasoline' endorsed by CARB against the oil companies.

60 Opinion of the Commission, *Rambus, Inc.*, docket no. 9302, 2 August 2006, pp. 118–119.

61 *Re Union Oil Company of California (Unocal)*, FTC docket no. 9305, administrative complaint, 4 March 2003.

62 Gorinson S, Ewing J, and Boyle P. Federal antirust enforces focus on intellectual property abuses. *Intellectual Property Today.* 2003: 1.

European Community competition law

Article 81 EC

Article 81(1) of the EC Treaty prohibits 'agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market'. For the standardization process, two concerns are important: (i) the standard-setting organizations may be considered as 'associations of undertakings'[63] and (ii) co-operation between members of the standard-setting organizations may amount to a 'concerted practice'.

Exceptionally, by virtue of Article 81(3), such agreements (decisions of associations of undertakings or concerted practices) escape the prohibition and, consequently the nullity sanction of Article 81(2). To benefit from the exemption, the agreements must

> contribute to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit

but must not

> (a) impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives;
> (b) afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.

The European Commission explained the application of Article 81(3) criteria in its Guidelines.[64] These clarify that standards adopted by standard-setting organizations which apply unrestricted and transparent participation criteria and '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'.[65] Generally, recognized standardization bodies founded on non-discriminatory, open, and transparent procedures remain outside the scope of interest of the European Commission.

Standardization agreements are also accepted by the European Commission if their activities reach a negligible part of the market; if they pool small and medium-sized enterprises to standardize 'access forms or conditions to collective tenders'; or if they standardize minor product characteristics and have no significant effect on factors of competition on the relevant markets.[66]

Standardization agreements aimed at the exclusion of actual or potential competitors will almost always fall within the scope of Article 81(1), as will those which grant their parties control over production and/or innovation, thus restricting their ability to compete on product characteristics and at the same time affecting third parties (suppliers or purchasers of standardized product).

While the Commission is generally positive about the role the standardization agreements play in the economy, it remains concerned over restrictions of competition included within them. The Guideline imposes an obligation on the parties to 'demonstrate that any restrictions on the setting, use or access to the standard provide economic benefits', while standards cannot limit innovation and should be as technology-neutral as possible.

From the enforcement perspective, in order to catch a patent ambush under the prohibition of Article 81(1) at least two undertakings must co-operate to conceal the patent rights and assert their right following dissemination of the standard. Article 81(1) does not cover unilateral conduct.

While theoretically possible,[67] it is hard to impute anticompetitive conduct under Article 81(1) to the entire standard-setting organization because one of its members fails to disclose a patent held or applied for, which is included in the standard. The final standardization agreement will generally be void only if there is a 'concurrence of wills'[68] between the members of the standard-setting organization. In the patent ambush scenario, the standard-setting organization members are as surprised by the claim for royalties directed at companies which incorporate this standard as are those companies themselves. The 'concurrence of wills'

63 Provided the respective criteria defined in the ECJ case law are met as explained in Cases C-41/90 *Höfner and Elser v Macotron* [1991] ECR I-1979; C-159/91 and C-160/91 *Poucet et Pistre v AGF and Cancava* [1993] ECR I-637; C-244/94 *FFSA and others* [1995] ECR I-4013; C-67/96 *Albany* [1999] ECR I-5751; C-264/01 *AOK-Bundesverband and others* [2004] ECR I-2493.

64 Guidelines on the applicability of Art 81 EC to horizontal co-operation agreements, OJ 2001 C 3/2, para 159.

65 ibid, para 163.

66 ibid, para 164.

67 On the basis of its effect of restricting competition; 'Competition & Intellectual Property Policy Implications of Late or No IPR Disclosure in Collective Standard Setting', 17 June 2002, speech of DG COMP representative Magdalena Brenning at American Bar Association's International Roundtable on International Standards in Brussels.

68 As developed in case law of ECJ and CFI: Joined Cases 89/85 etc *Woodpulp* [1993] ECR I-1305; Joined Cases T-1/89 etc *Polypropylene* [1991] ECR II-867; and Case T-41/96, *Bayer AG v Commission* [2000] ECR II-3383 and on appeal, joined Cases C-2/01 P and C-3/01 P [2004] ECR I-00023.

element required to catch an agreement under Article 81(1) may be very difficult to prove, if not impossible.

Moreover, if the effect of Article 81(1) was to apply fully to standardization agreements tainted by patent ambushes, leading thus to their nullity, this would have a very disturbing effect on that industry and possibly those industries adjacent to it.[69]

The application of Article 81 to patent ambushes will most probably be limited to situations where two or more undertakings decide to collude in concealing relevant information from the standard-setting organization. Alternatively, it may be used to challenge licensing agreements concluded between the patent holder (the perpetrator of the patent ambush) and its licensees. The justification for applying Article 81(1) to such cases would be the effect of such agreement of 'excluding actual or potential competitors from the market as a result of non-transparent procedures'.[70] This interpretation has not yet been tested before the ECJ.

Article 82 EC

The drafters of the EC Treaty provided for Article 82 as the response to unilateral conduct which may threaten competition-related interests:

> [a]ny abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be prohibited as incompatible with the common market insofar as it may affect trade between Member States.

By virtue of Article 82, only abuse of the dominant position is prohibited, not the creation of dominance. That is limited by application of the Merger Control Regulation 139/2004[71] to the extent an undertaking strives for a dominant position through acquiring control over other participants of the market.

In contrast, the US law offers a wider array of legal bases for identifying anticompetitive unilateral behaviour by prohibiting acts of unfair competition.[72] Under EC law, these types of behaviour may be prohibited only to the extent they constitute an abuse of a dominant position. It is, however, possible that a unilateral conduct remaining outside the scope of Article 82 will still be prohibited under unfair competition legislation in EU Member States.

The patent ambush scenario may cover a number of situations in the context of Article 82. These situations may range from a non-dominant undertaking achieving a substantive market position as a result of the application of the standard based on proprietary technology which was not disclosed in the drafting process, to a dominant market player directing the standard drafting process to promote its products or proprietary solutions. Depending on relative market strength of the participants and characteristics of the market, those situations may constitute abuses of a dominant position.

In order to apply Article 82 in patent ambush cases, market dominance must be established. Under EC competition law dominance, abuse of the dominant position and the effects of such abuse may all take place in different relevant markets.[73] As the European Commission explains,[74] justification for intervention under Article 82 will require establishing a relevant market, dominant position, and the abusive behaviour, for example (i) application of discriminatory licensing terms, and/or (ii) demanding excessive royalties, and/or (iii) refusal to license in order to monopolize a downstream market.

In technology markets, the difficulty in defining the scope of the relevant market and the abuse lies in the fact that the practice in question may cover not only the patent claimed but in the fact that the claimed technology may be used, for instance, to achieve interoperability with other technologies. In many cases, the standards also form a part of a product system, which also poses difficulties in defining the relevant market. Additionally, technological change and progress must be considered. Depending on the development of the standard (or competing standards or technologies), an undertaking may not be found to be dominant on the relevant market even if it commits a patent ambush.

Another important issue is collective dominance.[75] Provided the criteria are met, the members of a standard-setting organization may be held to be collectively dominant on the relevant market. This calls for special attention with regard to all forms of co-operation

69 E Petritsi, ibid, p. 32.

70 G Ohana, M Hansen, and O Shah, ibid, p. 646.

71 OJ 2004 L 24/1.

72 Section 5 of the FTC Act prohibited 'unfair or deceptive acts or practices' since 1938.

73 As established in a line of ECJ case law: Case 6/73 *Commercial Solvents* [1974] ECR 223; Case 311/84 *Centre Belge d'etudes de marche Telemarketing v CTL* [1985] ECR 3261; Case C-310/93 *British Gypsum v Commission* [1995] ECR I-865; Case C-333/94 *Tetra Pak v Commission II* [1996] ECR I-5951.

74 'Competition & Intellectual Property Policy Implications of Late or No IPR Disclosure in Collective Standard Setting', 17 June 2002, speech of DG COMP representative Magdalena Brenning at American Bar Association's International Roundtable on International Standards in Brussels.

75 Notion defined in ECJ case law and covering a market characterized by limited number of participants, high level of transparency of the market,

undertaken by the members. Nevertheless, the ECJ held that, in the markets characterized by collective dominance, individual abuse is possible.[76]

The ECJ has defined the concept of a dominant position as the possession of economic strength which enables a business to prevent effective competition in the relevant market by affording it the power to behave to an appreciable extent independently of competitors, customers, and consumers.[77] In general terms, the EU notion of dominance covers more divergent situations, broader restrictions, and requires a lower standard of proof than the Sherman Act antitrust concept of monopolization. Similarly to US law, holding a monopoly position is not itself illegal.

There is a general presumption of dominance where an undertaking holds a market share exceeding 50 per cent[78] (though dominant positions has been held to exist in cases of undertakings having a 20 per cent market share).[79] Market share is not, however, enough as analysis of dominance must take into consideration competitive constraints over the undertaking's activities on the market.

Analysis of dominance must take into consideration competitive constraints over the undertaking's activities on the market

In the context of technology markets, those competitive constraints will include (i) alternative technologies available, (ii) costs and time effort required to develop such technologies, and (iii) potential competition (new entrants).

One must also distinguish between the relevant market as existing at the moment the patent ambush practice is employed and the relevant market which will be created once the standard is in place (the technology market). The ambusher will usually not be dominant in the former but most probably will enjoy a dominant position in the latter. If, however, the technology market may be defined based on the assumptions which could have reasonably been made on the moment of drafting the standard (and related non-disclosure), the patent ambush strategy may be deemed an abuse of an (anticipated) dominant position. Defining the relevant market on the basis of assumptions which could have reasonably been made at the moment of non-disclosure (because this is the moment when the abuse is committed) is speculative[80] and therefore risky for the competition authority.

To sum up, if analysis leads to a conclusion there is no option to invent around the IP rights that are captured in the standard within a reasonable time and incurring reasonable costs and the IP rights holder is in a position to control the (defined) relevant market through extraction of royalties and/or licence fees for his technology included in the industry standard, then this company may be abusing its dominant position.

There are, however, several possible justifications which weigh heavily against establishing abuse.

First is that the technology adopted in the standard is simply the best available technology, which would have been adopted regardless of whether any patent or application was disclosed by the company? In such a scenario, a dominant position may be considered reached by competition on its merits (result of a superior technology) and any subsequent abuse of this dominant position would be unrelated to the patent ambush.

While asserting rights under a patent is not of itself an abuse,[81] abuse of a dominant position may apply if a party chooses to combine the patent ambush with a subsequent form of abusive conduct such as discriminatory licensing policy or exclusionary practices vis-à-vis its competitors aimed at eliminating them from the standardized product market. However, even refusal to license will only exceptionally be treated as a prohibited abusive conduct.[82]

One may, however, argue that the company committing a patent abuse and later becoming dominant through dissemination of the standard will be punished for reaching a dominant position since the EC Treaty prohibits only abuse of the dominant position, not its creation. Lastly, if a business cannot be held dominant the moment it elects to keep its patents confidential in the course of the standardization process, Article 82 EC cannot apply. In contrast to section 5 of the FTC Act, EC law contains no unfair trading rules.

Is the amendment of patent applications in order to reflect the deliberations of the standard-setting organiz-

possibility to retaliate against a competitor who wants to depart from *status quo* and the fact that third parties are not in a position to disturb the balance; T-102/96 *Gencor* [1999] ECR II-753; T-342/992 *Airtours* [2002] ECR II-2585.

76 R Whish, *Competition Law* (5th edn. 2005) 529; T-228/97 *Irish Sugar* [1999] ECR II-2969.

77 Case 27/76 *United Brands v Commission* [1978] ECR 207.

78 Case C-62/86 *Akzo v Commission* [1991] ECR I-3359.

79 R Whish, ibid, p. 182.

80 E Petritsi, ibid, p. 35.

81 ECJ Case 238/87 *AB Volvo v Erik Veng (UK) Ltd* [1988] ECR 6211, para 8.

82 ECJ Joined Cases C-241/91P and C-242/91P R*adio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP) v Commission* [1995] ECR I-00743.

ations anticompetitive? National patent laws in EU Member States contain legal rules on amending, broadening, or narrowing patent applications. As far as the actions of the undertaking in question follow those rules, any misconduct will be difficult to prove.[83]

Also, while Article 82 contains no provision corresponding to Article 81(3), the European Commission's review process nevertheless contains elements of evaluation in certain cases of abuse of dominant position.[84]

In conclusion, the problems of patent ambush may be addressed well by unfair competition or general civil law (or the law of obligations), and not necessarily within the Article 82 framework.

X/Open Group

X/Open Group[85] was the first case where the European Commission tackled issues of standardization in the context of competition law. A group of companies notified an agreement regarding the establishment of a 'common application environment' and 'standard interfaces'. The Commission held the agreement to fall within Article 81(1), being open to certain participants of the market holding a market share higher than the *de minimis* threshold.

The arrangement was subsequently exempted under Article 81(3) as the benefits from creation of the standard outweighed any contemplated restrictions of competition. In particular, the agreement fostered technological progress by establishing a common application environment for UNIX software. The benefit for consumers resulted from a wider choice of applications which, lacking the envisaged standard, would not have been available. Furthermore, the agreement did not offer the possibility to eliminate competition in the relevant market.

ETSI

A case arose in 1995[86] when ETSI adopted a draft IP right policy which required the participants to license all technology necessary for a standard unless the right holder expressly reserved the right to refrain from licensing the rights thus identified. The deadline for raising any reservation expired after 80 days following the date of commencing the standard development process. Accepting this IP right policy was a condition for joining the organization.

The Commission did not approve the *ex ante* licensing rules, as in its view those were restrictive to innovation and constituted agreements prohibited under Article 81(1).

Following amendments to ETSI Directives, in the event of discovery that a solution contemplated in the standard is a subject of a patent belonging to an ETSI member or a third party, ETSI may decide to invent 'around the patent' or cease work on the standard. Where the patent holder is an ETSI member, the organization may call the holder to reconsider the refusal. Finally, if the existence of the patent comes to the attention of ETSI after it adopts the standard, the organization may seek to remove recognition of the standard as a European Standard under EC Directive 98/34.[87]

In March 2006, the European Commission closed a second investigation regarding ETSI standard-setting rules. Its allegations concerned the need to ensure adequate protection against 'patent ambush' in ETSI procedures. Following the Commission's inquiry, the ETSI IP rights disclosure rules were strengthened by amplifying the requirement of early disclosure of those rights which are essential for implementation of the standard.

In accordance with the Commission's lenient attitude in the new Guidelines on technology transfer agreements,[88] ETSI announced plans to adopt an *ex ante* licensing policy which may be pro-competitive, provided certain safeguards are in place.

German law

In July 2004, the Bundesgerichtshof[89] held that, in light of the German Law against Restrictions of Competition (*Gesetz gegen Wettbewerbsbeschränkungen*), a patent holder who enjoys a dominant position commits a breach of the non-discrimination principle when it deploys its licensing policy to limit access to markets in accordance with criteria which contravene free competition. The patent holder's refusal to license effectively prohibited a competitor from marketing its

83 E Petritsi, ibid, p. 41.

84 ECJ further uses the concepts of 'objective justification' and 'proportionality' as circumstances which may exonerate the perpetrator of an abuse of the dominant position; Case 311/83 *Centre Belge d'Etudes de Marché Télémarketing v CLT* [1985] ECR 3261; see also European Commission Staff Discussion Paper on the

85 European Commission decision IV/31458, OJ L 35/36 [1987].

86 Comfort letter of the European Commission no. 35.006 issued 2 October 1995.

87 Currently Clause 8 of ETSI IPR Policy (annex to ETSI Rules of Procedure), version dated 23 November 2005.

88 Commission Notice Guidelines on the application of Art 81 of the EC Treaty to technology transfer agreements, OJ 2004 C 101/02, item 225 allowing for ex ante licensing terms in the context of standards adopted by technology pools.

89 Docket KZH 40/02, German Supreme Court (BGH) judgment of 13 July 2004.

products in accordance with the standard applicable in Germany.

Measures to counteract patent ambushes

In seeking to counteract potential patent ambushes, standard-setting organizations have taken several measures to neutralize the threat, focusing on procedures that are easy to monitor and do not involve taking decisions on substantive matters on the enforcer's part. These procedural safeguards concentrate on (i) IP rights search, (ii) IP rights disclosure, and (iii) licensing terms (including royalties). All three sets of measures are an important factor regarding contemplated participation in the standard-setting organizations and influence competitive behaviour on the market.

The standardization process extends over time and during this period new solutions may be invented, sometimes even in remote areas of a participant's activity which might read on contents of the contemplated standard. Not all standard-setting organizations require its participants to conduct a patent search in the context of standard-drafting processes. Bearing this in mind, the dynamic of the standardization process, searching a 'moving target' is difficult[90] and even extensive IP rights search regulations, binding on standard-setting organization participants, may not bring the envisaged results.

The disclosure element has an impact on the applicant's competitive strategy, in particular when it is not clear what scope of disclosure is actually required by the standard-setting organization. From the applicant's point of view, once the information is released and he is eventually denied a patent, he loses protection of his property via trade secret protection.[91] Thus, there may be valid reasons to limit information disclosed solely to the existence of patent applications concerning solutions which are contemplated in the standardization process.[92]

Another disclosure-based risk arises from the fact that the information on patents and patent applications is directed to specialists in the given field. A learned engineer may have no difficulty in discovering the substance of a new patent claim based on the combination of his own knowledge with information contained in the disclosure statement. Further, once the applicant divulges information on pending patent applications, he simultaneously informs his competitors also on the fields of research in which he is inactive. Such information may be valuable for other market players.

Standard-setting organizations usually require information on existing patents but do not always require information on patent applications. A particular problem of patent applications is that they may be subject to subsequent amendments, extensions, or narrowing of their scope. However, matching a dynamic process of standardization with disclosure of dynamically amended patent applications would be burdensome on standard-setting organization participants. Politically, this may be a very important disincentive to participate in the standardization process; especially when combined with the risks of disclosure discussed above.

In many instances, a disclosure requirement is further restricted to the 'actual knowledge' of the representative of the applicant attending standard-setting organization meetings.[93] Consequently, when the rules are taken literally, the risk of wilful blindness on the part of representatives is difficult to avoid. Such formulations of the organizations' by-laws restrict the scope of potential fraud or misrepresentation, thus making it even harder to prove infringements of competition law.

From the same perspective, the more limited the scope of disclosure, the less the risk of concerted practice conducted by standard-setting organization members: the risk of too extensive information exchange being treated as a 'concerted practice' or 'facilitating practice' is a factor which the organization should take into consideration.

Both from the US (business justification) and European Union (Article 81(3) and 'rule of reason') perspectives, the discussion above is relevant for evaluation of an applicant's behaviour when analysing possible competition law infringements. Competition on the merits is a valid argument in both systems and, if combined with necessity of undertaking potentially anticompetitive conduct for the sake of protecting innovation (thereby providing improved goods for the benefit of the consumers), may weigh heavily towards deciding that non-disclosure practice was legitimate on the part of the applicant.

The business justification defence, in contrast, may only be available to the extent that respective standard-setting

90 M Naughton and R Wolfram, ibid, p. 761.

91 Eg in accordance with the Patent Cooperation Treaty 1970, a patent application need not be disclosed during 18 months following its filing, and in which the relevant patent office decides whether to grant or refuse the application and in which the applicant is free to amend the application.

92 Lemley M. Intellectual property and standard setting organizations. *California Law Review*. 2002; 5: 1889.

93 M Naughton and R Wolfram, ibid, pp. 762–763.

organization rules are unclear. Allowing an applicant 'to prevail on a theory of business justifications in the face of clear disclosure rules is akin to allowing business torts and contract violations as business justifications on the grounds that these acts were profitable'.[94]

Reasonable and non-discriminatory terms

The purpose of RAND licence terms is to bind the standard-setting organization member to use terms, particularly as to the amount of royalties, which remain within the 'reasonable and non-discretionary' limit. Those terms will apply where the adopted standard contains an IP right belonging to a standard-setting organization member. By anticipating RAND terms, exploiting undisclosed IP rights suffer important constraints, as going beyond agreed RAND terms may entail liability for breach of contract and/or undertaking actions of unfair competition.

By-laws of standard-setting organizations may also contain sanctions for breach of RAND terms consisting of reverting the standard back for consideration by the standard-setting organization or withdrawal of the standard altogether.[95]

The anticompetitive risk arises when predefined licensing terms may be regarded as a concerted practice of setting prices or delimiting markets by standard-setting organization members. The RAND terms themselves are thus usually left open for the patent holder to specify. To neutralize the threat of anticompetitive conduct further, by-laws distinguish expressly between disclosure and negotiations in the standard-setting process from discussions on licensing terms and royalty rates.[96]

The *ex post* approach, however, essentially results in negotiation of licensing terms only after the patent holder has gained a market position, augmented (or even created) by his IP rights embedded in the standard. Logically, the terms negotiated will not necessarily be the most favourable for most of the remaining participants in the market. Thus, even if the patent holder agrees to RAND terms where he failed to disclose the relevant right, he will nevertheless have given himself a better negotiation position. The practice of negotiating RAND terms, viewed from this angle, may sometimes act as a disincentive against *ex ante* due disclosure.

Against this, the *ex ante* disclosure and negotiation approach may act as a disincentive to participate in standard-setting organizations. However, once *ex ante* negotiations are duly conducted and competitive RAND terms are adopted, the only reasoning to support an *ex post* approach is to extract supracompetitive profits from the IP right. Except for this aim of the IP right holder, there should be no reason to opt for *ex post* negotiation, once *ex ante* terms represent fair practice of the market.

Regardless of the option preferred, *ex ante* or *ex post*, the essential practical problem with defining the RAND terms lies in the considerations that (i) in the *ex ante* option it is difficult to anticipate the prospective value of the right protected once it is included in the standard and (ii) in the *ex post* approach it is troublesome to estimate the value if the standard gains popularity and confers market power on the IP right holder.

None of the authorities called to enforce competition law is well placed to define RAND terms and loyalties. Reflecting on possible differences of positions regarding what constitutes RAND, in *Magill*,[97] concerning compulsory licensing, the ECJ nominated a special tribunal to decide the terms and calculate the respective amounts.

None of the authorities called to enforce competition law is well placed to define RAND terms and loyalties

In contrast the *ex ante* solution, preferred by some authors,[98] may effectively eliminate patent ambush problems. When the price of the technology incorporated in the standard is defined *ex ante*, the holder of rights in that technology cannot charge royalties exceeding the predefined price without incurring a substantial legal risk.

RAND terms

The definition of 'default' RAND licence terms entails a risk of treating those terms as prohibited cartels where they may amount to price-fixing or delimitation of markets.[99]

94 M Naughton and R Wolfram, ibid, p. 735.

95 Eg Clause 8 of ETSI IPR Policy (annex to ETSI Rules of Procedure), 23 November 2005.

96 American National Standards Institute (ANSI), Guidelines for Implementation of ANSI Patent Policy, part IIIB, version March 2003.

97 ECJ Joined Cases C-241/91P and C-242/91P *Radio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP) v Commission* [1995] ECR I-00743.

98 G Ohana, M Hansen, and O Shah, ibid, p. 648.

99 This argument was used by the European Commission regarding ETSI Interim IPR Policy in 1995 Case IV/35.006 (OJ. C 76/5), closed by comfort letter of the European Commission issued 2 October 1995.

Postponing negotiation of licence terms until after the standard has been adopted brings, however, the following problems: (i) a delay in implementing the standard, as time will be needed to define the licence terms; (ii) a risk of rejecting the standards by market participants if they view the terms as unfavourable.

An option to submit RAND to arbitration may help reduce the risks of overly burdensome terms, but may bring even more severe delays in implementation.

RAND royalties

In defining RAND royalties for using the standard incorporating patented solutions, the patent holder will not be entirely free to set the quantum. The US courts for instance will verify the amount of 'reasonable' royalties by reference to industry custom and fees charged for use of patents in related industries.[100] European courts may well adopt a similar approach.

Agreement of RAND royalties in advance in quantitative terms, as opposed to defining the method of calculation, may entail legal risks. Such agreements may be classified as 'price fixing' under section 1 of the Sherman Act or as an agreement directly or indirectly to fix purchase or selling prices or any other trading conditions under Article 81(1)(a).

However, once the 'price-fixing' element is necessary in order to reach pro-competitive results and this restriction is proportional, under European Community law it may be exempted from the general prohibition by Article 81(3).[101] Also, *ex ante* negotiation and determination of RAND royalties may benefit consumers, by lowering prices for products which include the standard (particularly where patents are stacked in one standard solution).[102]

Ex ante negotiation of RAND royalties also benefits the patent holder. Such conduct shows the participant as a valuable, reliable member of an organization. In return, the solutions proposed by this member may be more likely to be accepted by the forum, as its previous practice will show that the inventor pursues no deceptive tactics. By-laws rarely (if ever) preclude members from negotiating on their own initiative of the level of royalties before the standard is implemented. The danger however may lie in mandatory determination of royalties.

As regards determination of the amount of RAND royalties, it has been suggested[103] that the aggregate royalty should be divided between the amount attributable to the demand for the invention and that attributable to demand created by adoption of the standard. The patent holder should not be entitled to the latter, while the former should constitute his reasonable remuneration for innovative effort. Thus, the quantum should be calculated solely on the basis of technological contribution to the standard, not the interoperability achieved by it.

Finally, the practice of some standard-setting organizations, to provide in their by-laws for an obligation to license IP rights royalty-free, is most likely to infringe Article 81(1) and cannot be objectively justified.[104] Regardless of competition law, this solution may also discourage participation in standard-setting organizations.

Important—but prone to abuse

Standardization processes are very important factors in the development of the economy, especially in its high-technology sector. These processes, however, are also prone to abuse, deceit, misrepresentations—all directed at extracting supracompetitive benefits as a result of successful standardization. At some level, no doubt, law should protect the process. However, as indicated, the currently available tools in the antitrust field are not necessarily the most effective response.

As Magdalena Brenning, a representative of the European Commission's DG Competition to an American Bar Association International Roundtable, said in July 2002:

> As for Article 82, one must recall that unlike U.S. law, liability arises only for abuse of dominance, not anticompetitive creation thereof. Showing abuse may be problematic in a patent ambush context. The EC, moreover, has no equivalent to the Federal Trade Commission Act, which was the statutory basis for liability in Dell. To demonstrate this point: where a non-dominant [standard setting organ-

100 M Naughton and R Wolfram, ibid, p. 767; M Lemley, ibid, p. 40; *Georgia-Pacific Corp. v US Plywood Corp.*, 318 F. Supp. 1116 (NDNY 1970), modified by *Georgia-Pacific Corp. v US Plywood-Champion Papers, Inc.*, 446 F.2d 295 (2d Cir. 1971); *Smithkline Diagnostics v Helena Laboratories* 926 F.2d 1161 (Fed. Cir. 1991). This practice is subject to certain difficulties of definition. In 1995, in litigation between Rockwell and Motorola over modem standard V.34 it was not clear even, whether the reasonable terms should be determined with regard to terms Motorola would have obtained on the market *ex ante* or the terms Motorola could use *ex post*, once it had a market power derived from its patents; US District Court for the District of Delaware in *Motorola, Inc. v Rockwell Int'l Corp.*, No. 95-575 (D.Del. 1995).

101 *M6 and others v Commission* T-112/99 [2001] ECR II-2459; *Matra Hachette SA v Commission* T-17/93 [1994] ECR II-595 European Commission decision COMP/29.373—Visa International (MIFs); this approach is also promoted by the European Commission in new Guidelines on the application of Art 81 of the EC Treaty to technology transfer agreements OJ 2004 C 101/02, item 225.

102 G Ohana, M Hansen and O Shah, ibid, pp. 653–654.

103 Patterson M. Inventions, Industry Standards, and Intellectual Property. *Berkeley Technology Law Journal*. 2002; 17: 1.

104 G Ohana, M Hansen, and O Shah, ibid, p. 650.

> ization] member intentionally conceals a patent that reads on the ultimate standard, and thereby becomes dominant as a result, is difficult to say liability arises under Article 82. Similarly, the subsequent assertion of IP rights against other members of the [standard setting organisation] may not constitute abuse of dominance, since the patent itself was properly granted in the first place. The only apparent area for Article 82 liability might arise if the IP holder applies unfair licence terms, engages in excessive pricing or refuses to license in order to monopolize a downstream market.

This passage summarizes the problem European Community competition faces with patent ambush. So far there has been no antitrust case based on Articles 81 or 82 and most European Commission practice is based rather on negotiations with the organizations concerned than enforcement as such.

In Europe important tools to counteract patent ambushes may be found in unfair competition legislation. The drawback of this approach, however, lies with the lack of a centralized application and the cost of litigation, which must be borne by private parties. The example of *Rambus v Infineon* shows that this solution too may be subject to important limitations.

The history of patent ambush cases in US antitrust practice suggests a similar approach. Even though the FTC is equipped with legal measures unavailable to European enforcers,[105] most crucial cases were resolved by consent orders. These, however, are not equipped with a power of precedent and do not therefore constitute law.

The relevance of the problems described here is well reflected by recent allegations raised against Qualcomm. That company is alleged to hold a patent on an essential element of 3G mobile technology. The mobile handset manufacturers accuse Qualcomm of illegal refusal to license the patent and further of misleading the standardization process regarding licensing Qualcomm's technology on RAND terms and, consequently of charging (or rather intending to charge) excessive royalties. In summary, patent ambush cases are an element of the current picture of legal issues behind a globalized economy. But will law and enforcement arrive with adequate responses to the problem? Imposing undue obstacles in standard-setting organization participation, however, may hamper standardization processes which are beneficial to the economy as a whole.

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105 Section 5, FTC Act.