



THE END OF *BILSKI*: NOT WITH A BANG BUT A WHIMPER

Controlling the game

How Infineon Technologies sets its own IP terms

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SETTING THE STANDARDS

When a technology product is purchased, such as a mobile phone, a DVD player, a PC or a video games console, it's likely that at least some of its components will adhere to industry standards. Standards organisations enable a broad range of companies to work together to contribute and jointly define technology for implementation in downstream products and services, but pose challenges to IP professionals and competition law attorneys alike. Five experts give us their views on this important area of business.

Do standards enable IPR holders to make overly high royalty demands?

Dan Hermele: Generally, no.

One needs to carefully distinguish between royalty demands attributable solely to standardisation, if they occur, and royalty demands attributable to the value of the standardised technology as protected by intellectual property laws.

The theory that holders of essential IPR are enabled to make overly high royalty demands—the 'hold-up' theory—is based on the premise that sufficiently close alternative technologies existed at the time of adoption of a particular standard, and that standardisation eliminated technology competition between these alternatives and conferred additional market power on the selected technology. However, two such potential technologies cannot be considered as true alternatives for the purposes of inclusion in a standard unless both are technically and commercially viable, and they satisfy the standards organisation's requirements. Moreover, standardisation often does not eliminate competition because inter-standard competition exists between rival standards, as well as competition with non-standardised solutions.

The hold-up theory also assumes that essential IPR owners have not disclosed their licensing terms *ex ante* and, as a result, are able *ex post* to demand unreasonable royalties from implementers. However, market participants often negotiate away any theoretical risk of hold-up by negotiating licences before implementers make major investments in the new technology.

Claire Bennett: The level of royalty that can be imposed is usually limited by the terms of the standards-setting organisation. For example, the IPR holder may have undertaken to license its IPR on FRAND [fair reasonable and non-discriminatory] terms and hence the royalty levied must be FRAND in the context of the licence.

In addition, no organisation within the product supply chain benefits if the cumulative royalty burden on an entity that wishes to operate the standard is too high. Where there are viable alternative technologies to the standardised technology, the higher the royalty costs, the lower the take-up of that standardised technology. Even where there are no viable alternative technologies, higher costs downstream will reduce sales volume. The competitive pressures from viable alternative technologies and in the downstream marketplace therefore have a regulative effect on the level of royalty demands.

Commercial pressures also have a self-regulative effect. Where the IPR holder needs to implement the standards, it may require a cross-licence from other IPR holders. If an IPR holder is viewed to have made excessive royalty demands, this may have a reputational effect, and when it comes to standardising the next iteration of that technology, those involved in that process may well steer away from including technical solutions covered by patents from that entity.

Problems may arise when the IPR holder is less subject to market pressures than other market players. Concerns were raised by the existence of

Non Practising Entities, but the market appears to have taken steps to address these.

Daniel Papst: When a patent claim reads on a feature or combination of features of a standard, meaning a product built according to the standard, the patent certainly would be deemed to have a higher value. As with other patent claims, the patent owner has the burden of proof to clearly show that the respective claims do read on the respective products covered by the standard. The defences, especially invalidity and non-infringement, against such claims that allegedly read on the standard-adopting product exist equally.

If the patent claims in question prove to be valid over the prior art and are infringed by the respective product, from my point of view, this fact prevails over an argument of standard conformity. Royalty demands are likely to go up if there is no doubt about the validity and infringement. If the proven claims undoubtedly read on features covered by the standard, the market volume affected would seem more easily ascertainable without necessarily influencing the individual royalty demand.

Pedro Bhering: In principle, the terms and conditions set by the IPR holder are valid. After all, no one else has taken the risks and costs of developing that new product or service. The agreement must be respected if it does not result in domination of the relevant market or elimination of competition. Thus, standards may enable IPR holders to set royalties in accordance with their own business strategies. When suggesting and

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even requiring commitment to FRAND terms, standards organisations play a fundamental role in stopping patent owners abusing the market power they gain with essential IPRs.

Dan Bart: This premise does not necessarily follow. Normally, the patent monopoly would grant the IPR holder the right to exclude others from infringing its patents, and to charge whatever compensation it chose to and to discriminate in deciding which companies it might choose to license or not. The RAND/FRAND LoA [letter of assurance] restricts those rights a patent holder would normally have. Now, because of the SDO [Standards Developing Organisation] IPR policy, the IPR holder may have given a promise not to discriminate and to charge reasonable compensation rates, including royalties, as part of the negotiated patent licences.

In return for 'sharing' its patented technology (including making it available to its competitors), the patent holder may receive reasonable compensation from implementers of the standard in a non-discriminatory manner. The patent laws were designed in part to stimulate innovation and investment in the development of new technologies, which can be shared at reasonable rates with all those wishing to implement a standardised solution to an interoperability or functionality challenge. In the US, the competition enforcement authorities have enforced such promises given to an American National Standards Institute (ANSI)-accredited SDO. It would be counterproductive for an IPR holder to charge high royalty rates that no licensee

would accept, since that means the deployment of the standard and its technology would fail in the market and the patent holder would not be paid. The technology and thus the royalties on the underlying essential IP provide the most income if it is widely deployed in standardised products. It is also important to recognise that not all patent holders have the same business model or use their IPR strategically in the same way when it comes to standards.

But what constitutes 'fair, reasonable and non-discriminatory' terms and conditions, including, in particular, royalty terms?

Pedro Bhering: The problem is the vagueness of FRAND terms. To date, precedents from the Brazilian courts and administrative authorities on this specific issue are still scarce. Brazilian Antitrust Law does not favour compulsory licensing of IPRs, but it prevents acts that unduly bar the use of IPRs, such as non-exploitation or even inadequate use of patents or know-how in Brazil. As an example, I could mention the commercialisation of patented products at levels that do not satisfy the demand of the internal market, thus resulting in higher prices for the end consumer. Such acts may be deemed as indications of violation of competition rules, except when non-use is justified for legitimate reasons. Licensors must be able to obtain a reasonable return on their risky investments in R&D. The key issue here is what constitutes a 'reasonable return'. Returns that are much greater than the costs of development and production may indicate a violation of the competition rules.

Dan Bart: Once the SDOs have a LoA on file, they leave it up to the parties involved to work out their licensing terms for the essential IP. Very often, a licensee will want a customised licence that covers more than just the patent holder's essential patent claims. There may be other IP cross-licensing opportunities, and also other commercial terms that the two parties agree meet their combined needs. These bilateral negotiations are largely successful, as evidenced by the limited quantity of litigation, considering the thousands of ICT standards that exist today. The ANSI Patent Policy, which generally applies to the development of all American National Standards, was derived with the objective of finding a balance between the rights of the patent holder, the interests of competing manufacturers seeking to implement the standard, the consensus of the technical experts from different stakeholder groups on the desired content of the standard, the concerns and resources of the SDO, the impact on consumer welfare and the need to avoid unnecessary strictures that would discourage participation in the standards development process. The discussion of licensing issues among competitors in a standards-setting context could significantly complicate, delay or derail standards-setting efforts. Moreover, it may risk the SDO and participants becoming targets of allegations of antitrust conduct.

Daniel Papst: The underlying licensing terms are supposed to be 'fair'. Taking a look at antitrust law, fair terms would mean terms that are not anti-competitive and that would not be considered unlawful if imposed by a dominant company in

the relevant market. Terms that may be considered breaching such a commitment include:

- Requiring a licensee to buy a licence for a product that it does not want a licence for, in order to get a licence for another product it does want a licence for, or
- Requiring a licensee to license its own IP to the licensor for free and including restrictive conditions on the licensee's dealings with its competitors.

A 'reasonable' licensing rate in the FRAND context is a rate charged on licences that would not result in an unreasonable cumulative rate if all licensees charged a similar rate. Cumulative rates that significantly increase the cost to the industry and make the industry uncompetitive can be deemed unreasonable.

'Non-discriminatory' is supposed to relate to both the terms and the rates included in respective FRAND licensing agreements. As the name suggests, this commitment seems to require that licensors treat each individual licensee in a similar manner. This does not mean that the rates and payment terms can't change depending on the volume and creditworthiness of the licensee. However, it does mean that the underlying licensing conditions included in a licensing agreement must be the same regardless of the licensee. This obligation is included in order to maintain a level playing field with respect to existing competitors and to ensure that potential new entrants are free to enter the market on a comparable basis.

Claire Bennett: The purpose of the FRAND requirement is to level, to some extent, the balance of negotiating power between the contracting parties (the fair and reasonable aspect) and to ensure that all parties compete on a level playing field (the non-discriminatory aspect). The level of royalty ought to reflect the value of the technical contribution of the patent(s) being licensed in the context of the standardised technology.

The difficulty with the term 'FRAND' from a legal perspective is that the FRAND obligation is a somewhat odd beast:

- Strictly, it originates out of the contract between the member of the standards-setting body and the standards-setting body itself. As such, the nature of the obligation, its interpretation and its enforceability by entities that are not party to that bilateral contract would come down to a matter of the local law of the relevant jurisdiction
- There may also be what we based in the UK would term equitable considerations, which may have an effect on a jurisdiction-by-jurisdiction basis
- More importantly, a key moderator of the FRAND obligation is competition law. Not only

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must the arrangements between the member of the standards-setting body and the standards-setting body itself comply with applicable competition law (in particular, Article 101(1) of the Treaty on the Functioning of the EU (TFEU)), so must the individual arrangements between the IPR holder and the licensee.

In fact, competition considerations would apply regardless of whether or not the IPR holder has given an undertaking to license on FRAND terms. An IPR holder of a truly essential patent could be found to be in a dominant position under Article 102 of TFEU. Whether or not the IPR holder is in a dominant position will depend on the definition of the relevant market under Article 102 of TFEU, and one cannot be entirely certain of the definition that a competition authority would place on the relevant market until one is before it. The interpretation of the constituent elements of FRAND by the competition authorities is accordingly highly influential.

Hence, whether particular terms are or are not FRAND may depend on not only the surrounding context, including the nature of the licence and market, but also for what purpose and by whom the terms are being assessed.

A consultation by the European Commission on a new regime for the assessment of horizontal co-operation agreements, which include standardisation agreements, under European competition law has recently closed. The existing regulations in this area expire at the end of this year. The draft guidelines contain some comments, albeit brief, on the assessment of FRAND. In the eyes of the European Commission, to be fair and reasonable, the licensing fee should bear a reasonable relationship to the economic value of the patents.

Dan Hermele: I will focus on the 'fair and reasonable' part of FRAND.

FRAND commitments provide a flexible framework that enables IPR owners and prospective licensees to negotiate bilaterally on mutually acceptable terms and conditions. The FRAND framework supports many different business models and allows the specific circumstances of each party and each relationship to be taken into account. The specific implementation of the FRAND commitment in each case is solely the result of a voluntary contract entered into by the IPR owner and licensee after a fair, arm's length negotiation. The contractual meaning of fair and reasonable is well understood to provide wide latitude as to the exact licensing terms that are to be agreed between the IPR owner and standards implementer, and will be governed by the marketplace.

The ETSI [European Telecommunications Standards Institute] IPR Policy makes it clear that the rationale behind the FRAND commitment—and the fair and reasonable terms that are part of it—is twofold: minimising the chances that essential IPR contained in a standard is unavailable, and making certain that holders of essential IPR are able to obtain adequate and fair rewards for the use of their innovations.

While it is up to the parties in licence negotiations in the marketplace to agree upon fair and reasonable terms and conditions, it is possible to say what the FRAND commitment is not. The FRAND commitment: is not itself a licence that must be separately negotiated between the IPR holder and prospective licensee; does not limit the remedies available to a patent owner under the applicable laws; applies only to the extent that the IPR is and remains technically essential to the standard as adopted; and does not imply any particular royalty terms or royalty-determining principle.

Finally, it is worth noting that FRAND commitments will, if disputed, in the final analysis, be enforceable under contract law by the appropriate national courts, many of which have well-established processes for the determination of 'reasonable' royalties.

Should IPR holders participating in the development of a standard be allowed or even required to disclose their prospective licensing rates and terms as part of the standards-setting process?

Claire Bennett: There are market incentives to disclose terms and rates early—to coin a phrase: 'the early bird potentially catches more of the worm'—so the real question may be, why regulate?

I think it is fair to say that there is a general consensus that an IPR holder who participates in the development of a standard ought to disclose the fact that it has IPR that covers, or may cover, the technology being standardised. Such transparency is essential to prevent patent ambush and to ensure that time and money are not wasted in developing a standard that is later effectively rendered inoperable by one company's refusal to license essential IPR on FRAND terms.

It is always open to an IPR holder to voluntarily reveal its licensing terms.

In principle, *ex ante* disclosure can be a good idea, as it further increases the transparency in the market, particularly to new entrants (seasoned players are likely to already have a good idea of another company's licensing policy). And it potentially reduces the time, expense and uncertainty of having to negotiate licences on an individual basis once the standard is set, and prevents the potentially overly burdensome aggregate royalty cost on the standardised technology.

However, there are drawbacks and difficulties on a practical level. Timing is a big issue—the level of royalty each participant receives ought to broadly reflect its inventive contribution to the standard, but standardisation is a dynamic and evolving process. If one requires *ex ante* disclosure too early on, one has insufficient information to make an informed decision and late entrants can be penalised; too late and the industry is already in effect locked into the standard. There is also a danger that price considerations would have a greater influence on the development of the standard than they properly ought to—the focus of those involved in setting the standard ought to be on the quality of the technical solution achieved.

Perhaps one of the stronger drivers for *ex ante* disclosure is to prevent the aggregate royalty rate of the standardised technology turning out to be too high. This is perhaps the biggest challenge that standards-setting authorities face. However, *ex ante* disclosure can still lead to an aggregate royalty rate that is too high as, strategically, it makes sense for companies to play it safe and err on the side of specifying a higher rather than a lower royalty rate, or else they risk losing out to other market players. Those that come in late to the arena can be at a disadvantage as the realistically available royalty pie may already have been consumed by the other entrants.

Also, in practice, *ex ante* disclosure may not be so useful as, typically, a licensee will require a customised licensing arrangement that takes into account its proposed use, includes non-essential patents, and so forth. In other words,

there may still have to be individual licensing negotiations even where *ex ante* disclosure occurs. The major difference would be that there would be more information to judge the likely parameters of that negotiation. Other standard licensing models, such as patent pool arrangements, also exist and may be more suitable in the particular circumstances.

Therefore, I think the decision on what system is most suitable to support the development and adoption of a particular technology really has to be considered on a case-by-case basis, and informed by the views of those who operate in both the primary upstream and secondary downstream markets.

Daniel Papst: It seems fair to have people involved in the standards-setting process who hold potentially standard relevant IP and who, on the one hand, disclose patents or patent applications involved and, on the other hand, ask for their intentions with respect to monetary demands. Requiring someone by law may be not the right way, but these questions should be on the agenda of each standards-setting board.

Dan Hermele: Whether and to what extent voluntary and unilateral *ex ante* disclosure is allowed under the auspices of the standards organisation is a matter for each individual standards organisation to determine.

On the other hand, mandatory *ex ante* disclosure of licensing terms and conditions in standards organisations is problematic. Such mechanisms tend to lack business model neutrality and may actually reduce standards quality and increase costs for the following reasons.

In a mandatory *ex ante* mechanism, it is fair to assume that selection of technology for inclusion in a standard will be influenced strongly by the disclosure of licensing costs. However, the 'total cost of ownership' of the products and services implementing the standardised technology typically include myriad downstream costs that are necessarily implicated by upstream technology choice and that are typically much greater than licensing costs, but that are not included in any *ex ante* licensing disclosure. For example, in the mobile communications sector, licensing costs are economically insignificant compared to the total cost of ownership to the end consumer, which include handset acquisition and network service charges. Without taking account of the total cost of ownership, *ex ante* mechanisms will tend to discriminate against upstream innovation and licensing business models, and favour downstream product or service business models.

Further, selection of inferior but cheaper technologies may actually result in an increased

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total cost of ownership as well as lower-quality standardised products and services.

A mandatory *ex ante* rule, as opposed to the existing voluntary *ex ante* rules of some standards organisations, also creates many complexities and difficulties in the standards-setting process itself, including:

- The danger of slowing or halting the standardisation process through involvement of additional commercial and legal considerations and personnel
- The inflexibility and inefficiency of providing 'one-size-fits-all' licensing terms, as compared to the flexibility of multiple bilateral *ex ante* discussions
- The question of the timing and granularity of *ex ante* disclosures in the standards process. (Are there to be *ex ante* disclosures at every technology selection point or just some? If so, which ones? Or should it be just at the end point? If so, how does that help with interim technology selection points?)
- The danger of aggregating such disclosures to provide a supposed 'cumulative' view where experience in some consortia shows this to be unrealistic and meaningless as to real-world, commercially negotiated agreements
- The danger of reliance on (perhaps unintentionally) misleading mandatory *ex ante* disclosures by standards members where other parties actually hold the essential IPR for the technology concerned, and

- The effect of changes/amendments to proposed and/or existing standards and changes to disclosers' ownership or coverage of essential IPR as a draft standard evolves.

Dan Bart: ANSI Patent Guidelines, which inform the ANSI Patent Policy, advise that the determination of specific licence terms and conditions, and the evaluation of whether such licence terms and conditions are reasonable and demonstrably free of unfair discrimination, are not matters that are properly the subject of discussion at a technical standards development meeting. Such matters should be determined only by the prospective parties to each licence or, if necessary, by an appeal challenging whether compliance with the Patent Policy has been achieved.

Many ICT companies support the notion that a company should be permitted to voluntarily disclose its licensing terms, and most SDOs I know allow such voluntary disclosure. In fact, when a patent holder makes an early disclosure that it likely holds essential claims, an implementer can approach that patent holder and seek licensing information. This is not uncommon. Sometimes the disclosing patent holder will take a 'sleeping dog' approach; forcing

these types of patent holders to disclose specific licensing terms may cause them to change their minds and seek compensation-bearing licences. Also, the mandatory disclosure of licensing terms may disrupt the usual standards-setting process. It is for reasons such as these that ETSI decided not to mandate the disclosure of specific licensing terms to itself.

Pedro Bhering: It is a well-known legal principle in most jurisdictions that the parties are free to choose whether or not they wish to enter into an agreement, absent superseding duties. Any restriction on the negotiations to a given agreement must be carefully considered. However, it seems fair to allow or even require IPR holders participating in the development of a standard to disclose their prospective licensing rates and terms. IPR holders have many advantages if their IPR is adopted as part of an industry standard. One of them is, of course, securing a significant market for the exploration of the IPR. Disclosure of licensing rates and terms in standards-setting activities is justifiable as a trade-off in return for those benefits.

In addition, disclosure prior to the definition of the standard may be a valid alternative to the

vagueness of FRAND terms and conditions. Such participation in the standards-setting process could prompt standards organisations to more precisely define what constitutes FRAND terms and conditions.

At what point does standards-setting (an agreement between competitors) become anti-competitive?

Dan Bart: The real concern in standards-setting is the deliberate and intentional failure to disclose an essential patent in an effort to gain an unfair competitive advantage. As noted, most traditional SDOs state that discussion or negotiation of specific licence terms should take place outside of the standards-setting venue to permit the most efficient development of standards, in part because the expertise of those in attendance usually is technical in nature as distinct from commercial or legal. ANSI recognises, however, that the consideration by standards participants of potential costs of standardisation, which may involve the costs of patented technology included in a standard, may be relevant to their individual determinations whether to support a particular standard, and is aware of the position of the US

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Department of Justice Antitrust Division that the availability of such information may have potential pro-competitive effects.

For these reasons, ANSI's policy and guidelines do not prohibit, and indeed encourage, the disclosure of such information outside of the technical standards-setting venue. Following this approach is also consistent with ANSI's position of avoiding even the threat of antitrust challenge, which may arise because, as US Department of Justice and Federal Trade Commission statements have observed, there may be instances where the anti-competitive effects of joint discussions regarding costs and IPR licensing terms (such as price-fixing, buyer cartel conduct or collusion to exclude parties) may outweigh the pro-competitive effects of standardisation and be subject to scrutiny under the antitrust laws. Even if the conduct is ultimately shown to be consistent with the applicable antitrust laws, the cost to an SDO and its members may be prohibitive of continued standards development activities.

Dan Hermele: In general, standards-setting generates important benefits for industry and consumers, such as increased innovation, increased interoperability, economies of scale, enhanced product and service quality, and economic efficiencies through the selection of the best-performing technologies. As such, standards-setting is generally a pro-competitive activity. However, as the question states, it often involves agreement between competitors that sometimes represent a large part of the relevant industry and therefore has the potential to be used as a smoke screen for anti-competitive collusion. To be consistent with competition law, standards organisations' rules must not allow for the joint negotiation or discussion of licensing terms, in particular royalty terms.

In addition, participants in the standards-setting process typically include companies at many different levels in the supply chain for standardised products and services, as well as horizontal competitors. For example, in mobile communications, there are typically pure upstream technology innovators, pure downstream implementers of standardised technology, as well as industrial buyers of standards-compliant products. The latter two categories of companies are purely direct or indirect licensees and may be motivated to reduce the value of the standards' essential IPR so as to reduce their input costs. There are also vertically integrated companies that have several of the above business models. These companies may be able to subsidise their R&D efforts through other businesses and may also have incentives to reduce the value of the

standards' essential IPR so as to reduce the input costs for their product or service businesses.

Standards organisations' rules must take care not to facilitate collusion among direct or indirect licensees of the standards' essential IPR, which while providing a short-term financial gain for those licensees, could seriously undermine the incentives to innovate and contribute valuable technology to standards in the long term.

“STANDARDS-SETTING IS GENERALLY A PRO-COMPETITIVE ACTIVITY. HOWEVER, IT OFTEN INVOLVES AGREEMENT BETWEEN COMPETITORS THAT SOMETIMES REPRESENT A LARGE PART OF THE RELEVANT INDUSTRY AND THEREFORE HAS THE POTENTIAL TO BE USED AS A SMOKE SCREEN FOR ANTI-COMPETITIVE COLLUSION.”

Pedro Bhering: Although it is a mistake to presume that IP protection conflicts with the idea of competition, there are some situations where the licensing of IPRs may generate antitrust problems, as for example, when two competitors use a licence agreement to share markets between themselves. Brazil's antitrust law prohibits business behaviours that unduly hinder the exploration of IPRs and, specially, unpatented technology. This disposition is considered the most important point of the relationship between free competition and intellectual property, because it permits the Brazilian Administrative Council for Economic Defense (CADE) to examine the impact of IPR licences.

The authorities of the Brazilian System for the Defense of Competition are able to restrain behaviours, if they produce or are capable of producing the following effects: to limit, to falsify or, in any manner, to harm the free competition or the free initiative; to dominate the relevant market of goods or services; to arbitrarily increase profits; or to abusively exert a dominant position. These are prerequisites for classifying business behaviours as anti-competitive.

Daniel Papst: Standards-setting may become anti-competitive once a standard precludes

parties interested in adopting that standard from doing so by not granting such a party access to the essential technology.

Claire Bennett: Standards-setting inherently involves a compromise in competition terms—there are both anti-competitive aspects of standards-setting and pro-competitive aspects. Where the standards-setting results in, for example, non-optimal technical solutions being adopted, or excessive aggregate royalty costs leading to a barrier to entry that excludes effective competition, then it can be said to have crossed the line from having an overall pro-competitive effect to an anti-competitive effect.

The balance that has to be struck between the pro-competitive and anti-competitive effects of standards-setting is simply a reflection of the balance that has been struck under intellectual property law, and in particular patent law. This issue arises because standards are made from technology that may be protected by IPR. Without an IPR regime, which allows an IPR holder to prevent another's use of that IPR, a standard is not of itself anti-competitive. Hence, the same considerations and limitations apply—the exercise of the rights is subject to competition law, and local law doctrines, and the patent rights will eventually expire. The additional element that the standard adds is the market's authoritative seal of approval to the standardised technology.

Who, if anyone, should be responsible for providing oversight and/or regulation of the standards-setting arena?

Daniel Papst: The supranational IP organisation that is already in place (WIPO) might be feasible for such a task if it could establish a section focusing on FRAND standards-setting. People with experience of IP, but also with business/licensing as well as setting standards would be crucial. A code of conduct could be worked out by such a section.

Pedro Bhering: Our federal antitrust enforcement agency is CADE. Its decisions have been flexible on both investigations of infractions to the economic order and in the preventive analyses of licensing agreements. This is because even if an agreement harms the competition at first, it might be able to bring efficiencies in the long run, mainly if they help advancing technological innovation and contribute to the economic development of the country. Following the rule of the reason, contractual clauses in IPR licences must be analysed on a case-by-case basis, as there are no *per se* problematic behaviours in this area.

Dan Hermele: Standards-setting functions very well in the vast majority of cases. To

a large extent, the presence of companies with multiple and varied business models in standards organisations leads to a system of checks and balances. It can be presumed that the tension between these different stakeholders in standards-setting results in a natural balancing effect, with these stakeholders having differing interests constraining one another. Standards organisations also regularly review their own IPR policies, among other of their rules, and seek to address any new issues that arise through self-regulation.

However, it is important for governments to ensure that the framework for standards-setting remains open, transparent, balanced and consensus-based. In particular, as stated by the European Commission's Directorate General for Enterprise and Industry in its 2008 White Paper on ICT Standardisation, it is important that standards organisations implement clear, transparent and balanced IPR policies that do not discriminate but that allow competition among different business models.

Dan Bart: A variety of parties are responsible for the oversight and proper operation of the standards-setting process. These include the participants themselves in the process. They should understand, follow and enforce the SDO's IPR policies. They should follow the policies, they should police other participants who do not follow the policies, and bring complaints or appeals to the SDO if they believe the policies are not being followed. The staff at the SDO have an obligation to be technology neutral and participant neutral, and to follow the policies of the SDO both for IPR matters and for other due process considerations, including complaints and appeals. Where there is an accrediting body such as ANSI, then it can also provide oversight of the standards-setting process. Competition authorities such as the US Department of Justice and Federal Trade Commission also provide oversight as do other regulatory agencies in certain sectors, such as the US Federal Communications Commission, in addition to complaints that may be filed internationally with ITU, IEC, ISO or the World Trade Organization. There is also private litigation among participants in the standards-setting process.

Claire Bennett: Standards play an immensely important role in technological development, with many positive economic effects for consumers and the industry alike.

There is already a multiplicity of organisations that to a greater or lesser extent oversee and/or regulate the standards-setting arena: the members of the standards-setting bodies, the standards-setting

bodies themselves, the national and regional competition authorities, and the national courts.

One must also not forget the role of market forces, which together with the intervention of the existing organisations that are required to nudge development along the correct course, function to flexibly and adaptively regulate standards-setting.

If further oversight was thought to be required, then a supranational organisation established by international treaty would be an obvious candidate, as the already international marketplace continues to become more and more international.

Dan Bart, president and CEO of Valley View Corporation, a consulting firm to the information, communications and entertainment sector, is also the current chairman of the American National Standards Institute (ANSI) IPR Policy Committee. He is a past chairman of the ANSI Patent Group and ANSI Copyright Group. Bart also was in charge of the Standards and Technology Department at the Telecommunications Industry Association (TIA) for more than 12 years, until he retired from TIA the end of 2006. At that time, TIA was the fourth-largest ANSI-accredited standards development organisation measured by the number of published American National Standards. He is also an attorney. His comments are his personal views and do not necessarily represent the views of any other party.

Claire Bennett is a lead lawyer in the intellectual property and technology group at the global law firm DLA Piper. She advises on technically and legally complex patent matters, particularly in the telecoms sector and often with a multi-jurisdictional angle. Essential patents and standards-setting related issues figure frequently in her work. Bennett acted on the case that established that the English court would grant declarations of (non-)essentiality to a standard and the first case in which such a declaration was made. Bennett has first-class Bachelor's and Master's degrees in physics from Cambridge University, and qualified as a solicitor of England and Wales in 2004.

Pedro A. V. Bhering has been a member of the Brazilian Bar Association since 1974. His degree is from the Pontifical Catholic University of Rio de Janeiro PUC-RJ. He is a member of various international IP associations, including: ABAPI; ABPI; ASIPI; INTA and AIPPI. Bhering speaks Portuguese, English, French and German, and his practice covers trademarks, geographical indications, licensing and technology transfer, copyright and neighbouring rights, enforcement against unfair competition and counterfeiting, and criminal and civil litigation.

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