

Standard setting, competition law and FRAND licensing in Europe and the United States

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1. Standards setting

Standards are based on voluntary cooperation between industry, public authorities and other interested parties and seek to set out “technical or quality requirements with which current or future products, production processes, services or methods may comply”.¹ Standardisation plays a particularly important role in the information and communication technologies (ICT) sector, where the need for interoperability and economies of scale and scope are critical to promote innovation and competition, especially as technologies converge.

Most IP issues arising from technical standards concern patents. It is obvious that technical standards are likely to comprise features that are the subject of patents, and there is little point developing a standard if its implementation can be blocked by a patent holder. In practice, patent holders that participate in standard-setting agree to grant licences to each other and to third parties, and if this commitment is not honoured there can be competition law consequences.

1.1 Technical standards

Examples of technical standards include the MPEG-2 digital video compression standard, the 3G standard for mobile telecommunication services and the Blu-ray standard for optical disc storage.

Standards can be facilitated or developed by a standard-setting organisation (SSO), or can emerge spontaneously without any form of agreement: so-called ‘*de facto* standards’. The focus in this chapter will be on standards developed by SSOs.

There are many different types of SSO. These can be broken down into the following:

- ‘Formal’ SSOs – these set standards based on institutionalised and consensual procedures in which all interested stakeholders can participate. There are three main sub-types:

1 European commission Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal cooperation agreements (OJ 2011 C11/1, 14.1.2011 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:011:0001:0072:EN:PDF>), paragraph 257.

- international SSOs, such as the International Organisation for Standardisation (ISO);
- European standards organisations (ESOs),² such as the European Telecommunications Standardisation Institute (ETSI), responsible for developing standards in the ICT sector, and
- national standardisation bodies, such as the British Standards Institute.

Typically, these formal SSOs have numerous members who can contribute to and influence the standards set by that body. For example, ETSI has over 700 direct members drawn from more than 60 countries worldwide.³ Its members include technology developers, network operators, handset manufacturers and many government and regulatory bodies who meet regularly with ETSI to agree standards.

- ‘Informal’ standardisation consortia – these are set up by groups of companies to draft sectoral standards. It is these types of organisation, as opposed to the ESOs, that have arguably emerged as the world-leading bodies in the development of ICT standards.⁴ For example, standards covering internet protocols were established by the Internet Engineering Task Force, a team consisting of network designers, operators, vendors, and researchers,⁵ and the Blu-ray standard was developed by the Blu-ray Disc Association, a group representing makers of consumer electronics, computer hardware and motion pictures.⁶

2. Intellectual property and standards

‘Standard-essential patents’ (SEPs) are those that are infringed, as a matter of technical inevitability, by implementation of the standard. In effect, they cannot be designed around. Such patents are of enormous value given the high sales volumes of standards-compliant consumer and other devices, on which royalties must be paid.⁷ In the ICT sector, each device typically features inventions patented by multiple competitors, who cross-license each other.⁸ The relative size of each company’s stack of essential patents can make a difference in licence negotiations, although its precise correlation to the amount of any royalty payable will vary according to circumstances.

Because of the inevitability of infringement by a large number of businesses, so-

2 European Committee for Standardisation (CEN), European Committee for Electrotechnical Standardisation (CENELEC) and ETSI are recognised as the European Standards Organisations under Council Directive 98/34/EC which sets a procedure for the provision of information in the field of technical standards and regulations (OJ L 204, July 21 1998).

3 www.etsi.org/WebSite/membership/currentmembers.aspx.

4 Annex 2 to the Commission Staff Working Document entitled “The Challenges for European Standardisation”, pp 14 and 15 – http://ec.europa.eu/enterprise/policies/european-standards/files/standards_policy/role_of_standardisation/doc/staff_working_document_en.pdf.

5 www.ietf.org/about.

6 www.blu-raydisc.com/en/Technical/FAQs/HistoryandAssociation.aspx.

7 Harhoff *et al.* point out the increasingly strategic use of patents to block rivals and extract concessions, as a consequence of the increased complexity of modern technology, with potential anti-competitive consequences: “The Strategic Use of Patents and its Implications for Enterprise and Competition Policies”, Tender for No ENTR/05/82 Final Report – July 8 2007.

8 See Biddle, White & Woods, “How Many Standards in a Laptop? (and other Empirical Questions)”, *Soc Sci Res Network* September 10 2010, available at SSRN: <http://ssrn.com/abstract=1619440> or <http://dx.doi.org/10.2139/ssrn.1619440>, identifying 251 standards embodied or utilised in a laptop computer.

called non-practising entities (sometimes referred to as ‘patent assertion entities’ or ‘trolls’) also purchase essential patents purely for the purpose of generating royalties.

2.1 Intellectual property policies of standard-setting organisations

SSOs need to engage with intellectual property for two principal reasons:

- first, because a standard will be inoperable if implementation is blocked by patent rights; and
- second, because standards and essential patents have competition law implications.

SSOs therefore encourage:

- disclosure of patents that are believed to be essential, or potentially essential, to relevant standards or proposed standards; and
- commitment to licensing of such patents.

The licensing commitment is not conditional upon the patent being proven essential. But a patent holder that has declared a belief that specific patents are essential, or potentially essential, to a standard should subsequently be able to make a correcting statement if that interpretation changes – for example, if a patent is declared by a court (or conceded by the patentee) to be non-essential.

The common patent policy for ISO/International Electrotechnical commission (IEC)/International Telecommunication Union (ITU), which is also endorsed by CEN and CENELEC, encourages the early disclosure and identification of relevant patents, and states that patented technology may be incorporated into standards subject to provisos: in summary, the patent holder must provide a statement, in a prescribed form, of willingness to negotiate irrevocable licences on a non-discriminatory basis on fair and reasonable terms and conditions (although not necessarily free of charge). This licensing declaration remains in force unless superseded by a more favourable declaration (eg, offering licences free of charge). Identification of specific patents is encouraged, but is only mandatory for patentees who refuse to grant licences.

ETSI's IP rights policy has been the subject of much scrutiny in telecoms patent disputes in Europe. Where essential intellectual property is identified, the owner is given three months to offer an irrevocable undertaking that it is prepared to grant irrevocable licences on fair, reasonable and non-discriminatory terms and conditions, failing which the work on the relevant parts of the standard may be suspended. ETSI members refusing to give licence commitments must explain themselves to the director general unless a viable alternative technology exists. The ETSI policy is expressed to be governed by French law, as is the licensing declaration in the prescribed form.

Since such licensing declarations and undertakings are stated to be irrevocable, it appears that they have effect even where a patent is subsequently found to be non-essential. This is not entirely clear, however.⁹

⁹ Paragraph 3.2.2 of ETSI's Guide on Intellectual Property Rights, which contemplates "Removal of IPR disclosures at the request of the IPR holder", refers to publication of associated licensing declarations and states that "removal shall be tracked in the IPR online database". This implies that declarations are in fact revocable.

2.2 Patent pools

A patent pool involves multiple undertakings agreeing to ‘pool’ their technologies and license them to each other or to third parties. This may be associated with the development of a standard or may arise separately.

Typically, a patent pool is created through an agreement between licensors owning essential patents. A pool need not include all essential patent holders. The licensors appoint a patent pool administrator¹⁰ to oversee the operation of the patent pool. It is the role of the administrator to evaluate essentiality, identify and market to licensees, execute and enforce uniform licence agreements, collect royalties and distribute revenue fairly to participating licensors. As this involves effort and expense, it will not be appropriate unless the advantages over purely bilateral licensing are clear – for example, to overcome patent ‘thickets’ whereby individual licence negotiation is uneconomical.

3. Competition law and the establishment of standards and patent pools in Europe

3.1 EU competition law principles

Article 101(1) of the Treaty on the Functioning of the European Union (TFEU) prohibits, as incompatible with the internal market, agreements between undertakings that may affect trade between member states and which have the object or effect of preventing, restricting or distorting competition within the common market.

Agreements that infringe Article 101(1) are void and unenforceable in respect of the provisions that restrict competition (Article 101(2)). Exemption under Article 101(3) may be possible, where the beneficial aspects of the agreement outweigh its anti-competitive effect, ie, the agreement contributes to technical or economic progress, allows consumers to get a fair share of the benefits, does not impose restrictions unless indispensable and does not substantially eliminate competition.

Article 102 of the TFEU prohibits the abuse by one or more undertakings of a dominant market position. The following examples of abuse are given: “directly or indirectly imposing unfair purchase or selling prices or unfair trading conditions”, “limiting production, markets or technical development to the prejudice of consumers”, or “applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage”. This is not an exhaustive list of all forms of abuse that have been developed in case law.

The European commission has the ability as the enforcement authority to impose fines on parties that infringe Articles 101 and 102 of up to 10% of their annual worldwide group turnover.¹¹

3.2 Application to standards

The commission takes the view that, under certain conditions, a standardisation

¹⁰ Examples include MPEG LA, One-Blue, Sisvel and Via Licensing.

¹¹ The commission has yet to impose any fines on participants in technical standards for infringing Articles 101 and 102.

agreement is not likely to produce restrictive effects on competition. Such conditions are set out in the commission's guidelines on the applicability of Article 101 of the TFEU to horizontal cooperation agreements (the guidelines)¹² and effectively create an informal safe harbour to avoid the scope of Article 101(1) of the TFEU. According to the safe harbour, standard-setting will normally not restrict competition if the following four conditions are met.

(a) *Participation in the standard-setting is unrestricted*

The rules of the SSO must be unrestricted to ensure that all competitors in the market or the markets affected by the standard are able to participate in the process of selecting the standard. The relevant SSO would also need to have objective and non-discriminatory procedures for allocating voting rights and, if relevant, objective criteria for selecting the technology to be included in the standard.¹³

(b) *The procedure for adopting the standard is transparent*

The standard-setting process must be transparent, so that stakeholders can effectively inform themselves of upcoming, ongoing and finalised standardisation work in good time at each stage of the development of the standard.¹⁴

(c) *The standard is non-binding*

The members of an SSO must remain free to develop alternative standards or products that do not comply with the agreed standard.¹⁵ In the case of *Philips/VCR*, the standards were in respect of the manufacture of VCR equipment which obliged the parties to manufacture and distribute only cassettes and recorders conforming to the VCR system licensed by Philips. The parties were prohibited from changing to manufacturing and distributing other video cassette systems. The commission held that such prohibitions constituted a restriction of competition.¹⁶

(d) *Access to the standard is available on fair, reasonable and non-discriminatory (FRAND) terms*

The rules of the SSO must ensure effective access to the standard on FRAND terms.¹⁷

3.3 Application to patent pools

Historically, patent pools have been viewed in principle as anti-competitive as such arrangements have the potential to raise the barrier to market entry or to create market powers. However, in the last decade, competition authorities have become more lenient towards the formation of patent pools as it is recognised that they have the potential to provide clear pro-competitive benefits.¹⁸ For licensees, patent pools

12 See footnote 1 above.

13 Paragraph 281 of the guidelines.

14 Paragraph 282 of the guidelines.

15 Paragraph 293 of the guidelines.

16 Commission Decision of December 20 1977 in Case IV/29.151 – video cassette recorders, OJ L 47/42, February 18, 1978, paragraph 23 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1978:047:0042:0047:EN:PDF>

17 Paragraph 283 of the guidelines.

provide a one-stop shop to access patents under a single licence, as opposed to negotiating licences separately with each patent owner. For licensors, such pools provide a convenient way to generate income.

Nonetheless, the structure and constitution of patent pools may have the potential to restrict competition by excluding potential members from the pool, and the exchange of sensitive information could facilitate collusion.

The safe harbour conditions outlined above apply generally in the context of patent pool agreements. In addition, the commission recognises that a patent pool presents fewer problems when the technologies in question are complementary, ie, when all the technologies are required to produce the product or carry out the process to which the technologies relate, rather than when the technologies are competitive (substitutes): where patents pooled are substitutes, there is no price competition. As a general rule, the commission considers the inclusion of substitute technologies as a violation of Article 101(1) of the TFEU and, in the case of pools comprising to a significant extent substitute technologies, it is unlikely that there would be an exemption under Article 101(3).¹⁹ The assessment of whether a patent pool is anti-competitive is ongoing, since a particular technology included in the pool may become non-essential during the lifetime of the pool and may turn a non-infringing pool into an infringing one.²⁰

On the other hand, a pool composed only of essential technologies, ie, where there are no substitutes for the technology either inside or outside the pool and where the technology is needed to develop the product or process for which the pool was set up – will generally not restrict competition, irrespective of the market position of the parties.²¹

3.4 Abuse of dominance

Infringements under Article 102 are likely to arise in the ICT sector, where the proprietary technology used in a standard will tend to increase the market power of the holder of the essential intellectual property rights. However, there is no presumption that holding or exercising IPR constitutes the possession or exercise of market power.²² Whether a standard confers market power must be assessed on a case-by-case basis.

3.5 Evolution of SSOs' IP rights policies on European competition compliance

SSOs have developed IP policies to enable them to identify essential intellectual property at an early stage of the standard-setting process, thereby reducing the risk of rights holders restricting access to an adopted standard.

18 In 2000, the commission approved the technology agreement between the major electronics companies Hitachi, Matsushita Electrical, Mitsubishi Electrical, Time Warner and Toshiba to pool their respective patents covering applications of Digital Versatile Disc (DVD) standard technology.

19 Paragraph 219 of the European Commission Guidelines on the application of Article 81 of the EC Treaty to technology transfer agreements (the Technology Transfer Guidelines, OJ C 101/2, April 27 2004 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2004:101:0002:0042:EN:PDF>).

20 Paragraph 222 of the Technology Transfer Guidelines.

21 Paragraph 220 of the Technology Transfer Guidelines.

22 Paragraph 269 of the guidelines.