

## II. Antitrust Scrutiny of Technology Pools under the Guidelines

### 1. Nature of the Pooled Technologies: Substitutes v. Complements and the Concept of Essentiality

The most recurrently typified negative and positive effects of technology pools on competition, as outlined in the Guidelines, are closely linked to the respective relationships of the pooled technologies and may be summarized as follows:

- On the one hand, if substitute technologies are involved,<sup>332</sup> pooling agreements may first of all result in a restriction of internal competition among the pool's contributors because of the joint selling of the pooled patents, mischievously taken out from their natural competitive context in the marketplace.<sup>333</sup>

Indeed, a pool composed solely or predominantly of substitute, instead of complementary, applications, might dangerously resemble a "price fixing cartel". Moreover, when a technology pool supports an industry standard or establishes a "de facto" industry standard, in addition to diminishing competition between the parties, technology pools may also result in a reduction of external innovation by foreclosing alternative technologies, as the existence of the standard and the related technology pool may make it more difficult for new and improved technologies to enter the market.

- On the other hand, if constituted of complementary technologies,<sup>334</sup> pools may certainly also produce pro-competitive effects, in particular by reducing transaction costs and by setting a limit on cumulative royalties, thereby avoiding "double marginalisation".<sup>335</sup>

The latter notion typically delineates the double (or, in general, the multiple) mark-up, which firms involved in a multi-level production process respectively charge as the retail price to the subsequent purchaser in order to get higher "margins" of profit.<sup>336</sup> Therefore, if the distinct production stages are operated by differ-

332 For the scope of the TTBER, "substitute technologies" are defined as such "when either technology allows the holder to produce the product or carry out the process to which the technologies relate", Guidelines, *supra*, fn. 299, Sect. 4 "Technology pools", para. 216, 2nd sentence.

333 Guidelines, *supra*, fn. 299, Sect. 4 "Technology pools", para. 213.

334 For the scope of the TTBER: "Two technologies are complements as opposed to substitutes when they are both required to produce the product or carry out the process to which the technologies relate", Guidelines, *supra*, fn. 299, Sect. 4 "Technology pools", para. 216, 1st sentence.

335 Guidelines, *supra*, fn. 299, Sect. 4 "Technology pools", para. 214.

336 The phenomenon of "double marginalization" was first discussed in the early 19th Century by the French mathematician Cournot A. in: "Recherches sur les Principes de la of the Richesses", 1938, English edition: "Research into the Mathematical Principles of the Theory of Wealth", Edited by N. Bacon, New York: MacMillan, 1897. A more thorough analysis is to be found in Spengler J., "Vertically integration and Antitrust Policy, Journal of Political

ent companies, having a certain market monopoly, a renewed surcharge occurs at each step, with the consequence that the final product has a higher price than would be the case, if a single company could control the entire production process, in which case the “marginalization” effect would eventually take place only once.<sup>337</sup> In other words, “double marginalization” is avoided, because the intent to draw a certain margin of profit is going to be related to the contributed technologies as a whole, thus not resulting from the sum-up of all patents needed to produce the targeted contract-product taken individually.<sup>338</sup>

Accordingly, the creation of a consortium, as a collective managing entity, may well have an overall positive outcome as to the third parties’ transactions, by simplifying the negotiation procedure and allowing for “one-stop shopping”, covering all the pooled technologies. The resulting competitive advantages are particularly evident in sectors where intellectual property rights are prevalent, i.e. clearing the way through so called “patent thickets”,<sup>339</sup> where in order to operate on the market licences need to be negotiated from a significant number of patent holders. Moreover, joint licensing and servicing can lead to further significant cost reductions, should third-party licensees also receive on-going services concerning the application of the licensed technology.

Finally, another main advantage offered by a pool of complementary technologies is also the overtaking of the “hold-up” problem, which arises when one of the patent holders refuses to grant licenses under reasonable terms, taking unfair advantage of being, in hypothesis, the last of a series of contractors needed to get access to a given package of interdependent technologies, thus abusing his stronger bargaining position to “hold-up” the prospective licensee.<sup>340</sup>

Economy, 1950, vol. 58, p. 347 *et seq.* ; More recently, Motta M, “Competition Policy”, Cambridge University Press, 2004.

- 337 See also: Hart O. and Tirole J., “Vertical Integration and Market Foreclosure”, *Brookings Papers on Economic Activity: Microeconomics*, 1990, p. 205 *et seq.*; Waterson M., “Price-Cost Margins and Successive Market Power.” *Quarterly Journal of Economics*, Feb. 1980, p. 135 *et seq.*
- 338 As considered, the phenomenon of “double marginalization” was first discussed in the early 19th Century by the French mathematician Cournot A. in: “Recherches sur les Principes de la Richesses”, 1938, English edition: “Research into the Mathematical Principles of the Theory of Wealth”, Edited by N. Bacon, New York: MacMillan, 1897.
- 339 Shapiro C., “Navigating the Patent Thicket: Cross Licenses, Patent Pools and Standards-Setting”, March 2001, available at <http://www.haas.berkeley.edu/~shapiro/thicket.pdf>
- 340 Merges R., “Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations”, 84 *California Law Review*, 1996, vol. 9, p. 1293 *et seq.*: “A hold-out is someone who refuses to agree to a bargain for strategic reasons. For example, if a city government needs to buy five parcels of land from property owners A, B, C, D, and E, E might wait until the other four (A-D) have sold their land. This puts E in the driver’s seat in bargaining with the city: E can now charge a very high price - in theory, up to the total amount the city has to spend on the project, minus what was paid to A-D - for his or her land. Since this price will often be more than the average price paid to A-D, and in any event more than the price E could have obtained if he or she were not the last to sell, such a holdout strategy will be rational in many cases”.

In order to clarify the basic distinction underlying the competitive assessment of patent pools, the Guidelines provide the definitions of complementary as opposed to substitute technologies, as well as of the concept of essentiality of a technology included in the pool, formulating the differentiation as follows:<sup>341</sup>

- “Two technologies are complements as opposed to substitutes when they are both required to produce the product or carry out the process to which the technologies relate”.
- “Conversely, two technologies are substitutes when either technology allows the holder to produce the product or carry out the process to which the technologies relate”.
- “A technology is essential as opposed to non-essential if there are no substitutes for that technology inside or outside the pool and the technology in question constitutes a necessary part of the package of technologies for the purposes of producing the product(s) or carrying out the process(es) to which the pool relates. A technology for which there are no substitutes, remains essential as long as the technology is covered by at least one valid intellectual property right. Technologies that are essential are by necessity also complements”.<sup>342</sup>

However, endorsing a critical stance, the definition of essentiality adopted by the Guidelines is a rather “strict” one, as it is not deemed sufficient for a technology to have no substitute inside the pool and as such to represent a necessary step for the production of the contracted product (what we would call “relative essentiality”) in order to be regarded as essential, but it is also required that no alternative technologies exist outside of the pool, which appears to represent a heavy burden to comply with, in “absolute” terms.<sup>343</sup>

Anyway, the differentiation between complementary and substitute technologies is of outmost importance for the assessment of patent pools under the antitrust scrutiny of the Commission and it is a determinant for the outcome for the grant of an exemption. Indeed this sensible distinction, based on economic and empirical rather than speculative observations, is also to be found in the antecedent US Antitrust Guidelines for the Licensing of Intellectual Property,<sup>344</sup> representing a retained “constant” in the assessment of the competitive impact of patent pools.

341 Guidelines, *supra*, fn. 299, Sect. 4 “Technology pools”, para. 216.

342 For a legal stance embracing the distinction between complementary and substitute technologies into a pool, see i.a.: Byrne N. et al., “Licensing Technology”, Jordans Publishers, 2005, p. 365 *et seq.*

343 On the point, see i.a.: Van Bael I., “Complementary versus Substitute Technologies Comprised in a Pool”, In: “Competition Law of the European Community, Kluwer Law International”, 2005, p. 700 *et seq.*

344 US Department of Justice and Federal Trade Commission, “Antitrust Guidelines for the Licensing of Intellectual Property”, April 1995, Sect. 5.5 “Cross-licensing and pooling agreements”, available at: [www.usdoj.gov/atr/public/guidelines/ipguide.htm](http://www.usdoj.gov/atr/public/guidelines/ipguide.htm)

## 2. Beyond Categorizations: Competitive Efficiencies from a Consumer Perspective

Beyond plain categorizations, it shall be nevertheless observed that the difference between complementary and substitute technologies is not “clear-cut” in all cases, since technologies may be partly substitutes and partly complements. In these intermediate situations, priority has been eventually given to the consumer perspective, which is regarded as a decisive parameter for determining the respective nature of two or more given technologies. Concretely expressed, every time that licensees, due to efficiencies stemming from the integration of two technologies,<sup>345</sup> are likely to demand and purchase both technologies, these are treated, for purposes of legal assessment, “as if they were complements”, even if in fact they are partly substitutable. In such cases, the more liberal approach adopted by antitrust authorities is based on the practical consideration that, even in the absence of the pool, it is likely that licensees acquire both technologies anyway, due to the additional economic benefit of employing both technologies as opposed to employing only one of them.<sup>346</sup>

An example may help to clarify the concept: thinking to both a laptop and a flat computer screen, nobody would ever seriously consider the technologies underlying such two products as “complement” to each other, since they are not both required to produce the same, but different products. In fact, they could even be regarded as “substitute”, as normally you may choose to purchase one or the other. Nonetheless, it follows from empirical observation, that an increasing number of consumers who buy a laptop are also likely to purchase an additional external monitor, following considerations of convenience (generally a laptop, while it has to be light and easy to carry, may have a small screen, thus the benefit of a bigger additional monitor to be connected and used in the usual working place). In this respect, hypothetically, if two patent owners contribute the respective technologies for a laptop and an external screen in a pool, their agreement is likely to fall under a positive legal assessment, given the consideration of their technologies as complementary, in accordance with the effective market demand.

## 3. Different Categories of Technologies and Possible Combined Scenarios

Eventually, out of the combinations of the different categories of technologies which, as outlined above, could be included in a pool, three possible scenarios could theoretically be depicted, as duly outlined by the Guidelines for the purposes of as-

345 Along the same line, giving primary considerations to actual efficiencies resulting from the combination of different technologies in a pool: U.S. Department of Justice and the Federal Trade Commission, “Patent Pools – Efficiencies”, In: “Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition”, April 2007, p. 66 *et seq.*

346 Guidelines, *supra*, fn. 299, Sect. 4 “Technology pools”, para. 218.

assessment under Art.81 EC, in view of improving the legal predictability and confer a certain degree of legal certainty to some typified kinds of agreement.<sup>347</sup>

- The worst scenario occurs when the inclusion of substitute technologies in the pool restricts inter-technology competition, ensuing into collective bundling,<sup>348</sup> where charged royalties rise above competitive levels. Besides, where the pool is solely or predominantly composed of substitute patents, the arrangement is deemed to cover a price fixing between competitors. Hence, as a general rule the Commission considers the inclusion of substitute technologies into the pool to be a severe violation of Article 81(1), where the conditions of Article 81(3) are unlikely to be fulfilled in the case of pools, which comprise substitute technologies to a significant extent. Given that the technologies in question are alternatives, no transaction cost savings accrue from including both technologies in the pool, in the absence of which the licensees would not have required both. It is not sufficient that the parties remain free to license independently, as in order not to undermine the consortium, which allows them to jointly exercise market power, the parties are likely to have little incentive to compete with each other.
- The best scenario, on the other hand, occurs when a pool is composed exclusively of technologies that are essential and therefore necessarily also complements. In the case of such a combination, the creation of the pool as such typically falls outside the prohibition of Article 81(1), even irrespective of the market position of the parties.<sup>349</sup> However, single clauses under which licences are granted may still fall under the bar of Article 81(1).<sup>350</sup>

Finally a mixed scenario takes place when non-essential but complementary patents are included in the pool, where caution is advised because of the risk of foreclosure of third party technologies.<sup>351</sup> In fact, it is argued that when a specification, for which substitutes exist outside of the pool, is included within the aggregated technology package, licensees are likely to have little incentive to acquire a competing specification, when the overall royalty paid for the package already covers such substitute technology.<sup>352</sup> In this respect, the Guidelines disputably maintain that: “The inclusion of technologies which are not necessary for the purposes of producing the product(s) or carrying out the process(es) to which the technology pool relates also forces licensees to pay for technology that they may not need”, concluding

347 For an extensive overview of the antitrust assessment of technology licensing agreements from a European competitive stance, see: Korah V., “Introductory Guide to EC Competition Law and Practice”, 9th ed., 2007, Hart Publishing, p. 104 *et seq.*

348 Guidelines, *supra*, fn. 299, para. 219.

349 *Id.*, para. 220.

350 For an analytical outline on the scenarios described in relation to the nature of the pooled technologies, see i.a.: Ritter L., et al., “European Competition Law: A Practitioner's Guide”, Kluwer Law International, 2004, p. 843 *et seq.*

351 Guidelines, *supra*, fn. 299, para. 221.

352 On the issue of foreclosure of third party technologies, see i.a.: Jones A. et al., “EC Competition Law: Text, Cases and Materials”, Oxford University Press, 2007, p. 842.  
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that the inclusion of complementary patents thus amounts to collective bundling. “When a pool encompasses non-essential technologies, the agreement is likely to be caught by Article 81(1) where the pool has a significant position on any relevant market”.<sup>353</sup>

Concerning this last point, it should be critically observed that two technologies that are complements, according to the same definition of complementarity previously provided by the Guidelines<sup>354</sup> - according to which: “Two technologies are complements as opposed to substitutes when they are both required to produce the product or carry out the process to which the technologies relate” - must accordingly also both be “necessary” for the production of the contracted product at issue. The fact that possible alternative specifications exist outside of the pool, meaning that strictly speaking the technology in question is not absolutely “essential” because of the availability of substitute technologies on the market, does not at the same time imply that such a technology becomes unnecessary, as the latter - or alternatively its substitute- is still required in the “complementary” chain of steps for the realization of the contract product. In other words, essential technologies must necessarily be complements, but complements may not be essential, in absolute terms.

Arguably, the Guidelines misleadingly appear to infer that when complementary but non-essential technologies are included in the consortium, licensees have to pay for applications that they may not need. In fact, even assuming the non-essentiality of a complementary patent within the pool, interested third parties, which do not find it convenient to license that particular technology from the pool itself, are anyway compelled to pursue an alternative solution in order to fill in the complementary step, which is still necessary to get access to all specifications underlying the pool’s contract product. At the worst, it could be argued that the incentive to pursue eventually available substitutes in the marketplace is diminished, when the acquired assembled package already covers a valid alternative specification, as reported in the first part of the Commission’s statement.<sup>355</sup> In any event, more far-reaching conclusions, such as those endorsed by the Guidelines - even if tempered by the acknowledgement that there may be other ways to ensure that third party technologies are not foreclosed<sup>356</sup> - may not be equally sharable for the reasons given.

Following the reasoning outlined, it is hereby disputed that, in the case outlined, the option to be left open should rather be one of:

- Either a replacement of the pooled technology with the external substitute, if convenient conditions can be negotiated, which would consequently be followed by the exclusion of the previously contributed patent, this outcome coinciding with the solution proposed in the Guidelines;
- Or a maintenance of the complementary specification within the pool, should the patent at issue, despite of having become non-essential for the emergence of

353 *Id.*, para. 221, last sentence.

354 *Id.*, para. 216, first sentence.

355 *Id.*, para. 221, first and second sentence.

356 *Id.*, para. 222, fourth sentence.

a concurrent third party's technology, still prove superior for reasons of competitive convenience.

In any case, the choice should be based on objectively relevant factors, such as quality-price considerations, with regard to the actual situation in the market place. Thus, a possible conflict between a pooled and an alternative external technology should not automatically be solved by the exclusion of the former, as simply put by the Guidelines.

#### 4. Antitrust Concerns Beyond Merely Technological Systematizations

While in theory competitive assessments of patent pools are to a great extent made on the basis of the interrelations of the pooled technologies, paraphrased into the opposition between substitute and complementary specifications, real-life scenarios are much more complex, and even the strict exclusion of substitute technologies from the assembled package does not completely eliminate the risk of antitrust collusion. In fact, in the moment of negotiating about which patents to include in the pool and which to leave out, in the hypothesis of more patentors holding complementary, but respectively substitute technologies, some other hidden "compensation" mechanisms may be convened in order to repay the owners of the excluded specification, who may nevertheless contribute other technologies to the pool, thereby also ensuring their final agreement to the collectively adopted solution.<sup>357</sup>

Besides, when it comes to patent pooling supporting technical standards, these risks of collusions are even compounded. In principle, the purpose of a standard-setting body should be the selection of the best standard to be implemented in the market. In practice, however, the participants in the process are not unbiased techno-

357 In this respect, it has been argued that: "Alas, even the commitment not to pool substitutes is no guarantee that the pool will not price as a cartel. Pool negotiations often involve discussion between patentees with suites of patents, some substitute and some complementary. Suppose that Acme has patents x1 and y1 and Beta has patents x2, which competes with x1, and z1, which does not compete with any other patent proposed for the pool. Following the assumed antitrust principle of 'complements only', the pool will not be able to include both x1 and x2, so Acme and Beta will have to agree which one comes in and which one stays out. Since both firms will want their own patent included, they will look for some quid pro quo for agreeing to allow the other's patent in - perhaps some 'adjustment' in the royalty rate of y1 or z1. Further, the negotiated rate of x1 or x2 could easily become a benchmark for the extra-pool licensing of whichever patent was not included in the pool. Indeed, even if Acme and Beta negotiate over the royalties of only complementary patents, those conversations may facilitate interdependent pricing by Acme and Beta of their competitive patents", in: Crane D., "Patent Pools, RAND Commitments, and the Problematics of Price Discrimination", Cardozo Legal Studies Research Paper No. 232, April 2008, p. 6, also available under the Social Science Research Network at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1120071](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1120071)

crats, but mostly patentees, and the standard is likely to pass through a thicket that incorporates some of those patents.

In fact, the very fundamental distinction between “complements” and “substitutes” becomes blurred in the context of a standard-setting process. In fact, while in the simplest patent pool case demand for the technology package is indeed external to the consortium, being influenced by market’s needs, when standardization activities are involved it is mostly the patentees themselves who decide which technologies to include in the standard, thus creating the demand for the patents to be pooled.<sup>358</sup>

## **5. Particular Obligations upon Standard-Related Technology Owners Involved in a Pool: Early Disclosure and Licensing Terms**

### **a. A Delicate Balance of Interests as Base for the Commission’s Recommendations**

As regards the market power that can be acquired by the pool, arising in itself special caution before antitrust authorities, as considered particular consideration shall be given to the case of patent consortium supporting industry standards. In this respect, the Guidelines state that: “Undertakings setting up a technology pool that is compatible with Article 81, and any industry standard that it may support, are normally free to negotiate and fix royalties for the technology package and each technology’s share of the royalties either before or after the standard is set. Such agreement is inherent in the establishment of the standard or pool and cannot in itself be considered restrictive of competition and may in certain circumstances lead to more efficient outcomes. In certain circumstances it may be more efficient if the royalties are agreed before the standard is chosen and not after the standard is decided upon, to avoid that the choice of the standard confers a significant degree of market power on one or more essential technologies. On the other hand, licensees must remain free to determine the price of products produced under the licence. Where the selection of technologies to be included in the pool is carried out by an independent expert this may further competition between available technological solutions”.<sup>359</sup>

In sum, weighing up the cause of the freedom to be conferred upon the right holders for fixing their royalties, on the one hand, against the concerns of individual

358 As it has been perceptively observed, by Crane D., *supra*, fn. 357, p. 7: “There is a concern that the SSO process could degenerate into horse-trading between patentees, each willing to support gerrymandering in favor of other patentees in exchange for some gerrymandering in favor of his own patents. For example, suppose that the optimal path for the standard is X-Y-Z, which reads on no patents and employs the best available technology. One can imagine that three patentees, each with one patent (A, B, or C), could agree to support an A-B-C standard. In this scenario, standard-setting collusion is doubly harmful, first because it reads on patents when it employs a technologically inferior path”.

359 Guidelines, *supra*, fn. 299, Sect. 4 “Technology pools”, para. 225.



abuse of market power upon the owner of a patent deemed to be essential for the implementation of a standard, on the other hand, the Commission chose to follow a rather diplomatic approach: in principle, sanctioning the sovereignty of the patentees to resolve when and how to set their licensing fees, but in practice recognizing that such determination may lead to more efficient results, from a competitive standpoint, if it occurs before the standard is chosen, thereby also accounting for a more transparent, cost-effective choice of the technologies to be eventually included into a standard.

In fact, the Commission already in the past advocated a more general set of recommendations for standard setting bodies on the ways to manage intellectual property rights relating to standards, thereby complying with EU competition rules. Specifically, pursuant to an officially issued Communication in 1992 on Intellectual Property Rights and Standardization<sup>360</sup> - more recently complemented also by another Commission Communication, released in 2004, on the role of European Standardization in the framework of EU policies and legislation<sup>361</sup> - many standard-setting organizations adopted leading principles directed at avoiding antitrust liability.<sup>362</sup> The ensuing implementations range from mere requirements of ex-ante disclosure, upon owners of technologies considered for inclusion into a given standard, to more far-reaching commitments to stipulate licenses on “reasonable and non discriminatory” (RAND) terms.

Nevertheless, it has been perceptively argued that antitrust “ex ante” disclosure obligations, as well as contractual enforcement actions by standard-setting organizations, especially as far as licensing fee commitments are concerned, may well guarantee that the royalties and other licensing terms are stipulated up front under RAND conditions, thereby counter-balancing the risk of individual abuse of market power. However, disputably such measures merely replace, on the one hand, the risk of “unilateral” holdouts with, on the other hand, the danger of collusion and price fixing, eventually resulting in cartelization and “collective” abuses.<sup>363</sup> In this respect, the antitrust authorities in the US have instead shown a very diffident approach to “ex ante” disclosures through their recent “Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition” of April 2007. There preliminary negotiations over licensing terms are considered to generate a serious potential both for the exercise of market power by standard-related patent owners and for naked price-fixing.<sup>364</sup>

360 Commission Communication on IPRs and Standardization, COM 92/445, October 22, 1992.

361 Commission Communication on the role of European Standardization in the Framework of European Policies and Legislation COM (2004) 674 final.

362 In the EU, standards bodies are actually recognized under Directive 98/34 of June 22, 1998, on Technical Standards and Regulations, published on OJ L 204, July 21, 1998, p. 37.

363 See in this respect the arguments raised by: Crane D., *supra*, fn. 357, p. 7.

364 US Federal Trade Commission and Department of Justice, “Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition” - “Chapter 3: Antitrust Analysis of Portfolio Cross-Licensing Agreements and Patent Pools”, Joint Report, April 2007, p. 50-52.

## b. The Precedence Set by Standard-Setting Bodies

Actually, the issue of an early disclosure of proprietary technologies susceptible to be incorporated into a standard truly came into the limelight following major developments set forth by standard-setting bodies dominating the international scene.<sup>365</sup> Establishing a prominent precedent, the European Telecommunications Standardisation Institute (ETSI)<sup>366</sup> adopted in March 2007 a new IP Rights Policy,<sup>367</sup> which is premised on a complementary pair of pivotal principles. First, members involved in the standardization process shall be obliged to inform ETSI of relevant essential patents in a timely fashion, hence a precursory disclosure is demanded. Second, should pertinent patented technologies be opportunely identified, the right owners shall undertake making their relevant licences available on fair, reasonable and non-discriminatory (FRAND) terms. Specifically, in this regard the adopted policy respectively requires that, on the point of disclosure: “[...] each member shall use its reasonable endeavours, in particular during the development of a standard or technical specification where it participates, to inform ETSI of essential IPRs in a timely fashion. In particular, a member submitting a technical proposal for a standard or technical specification shall, on a bona fide basis, draw the attention of ETSI to any of that member's IPR which might be essential if that proposal is adopted”.<sup>368</sup> As a consequence, when it comes to licensing commitments, “when an essential IPR relating to a particular standard or technical specification is brought to the attention of ETSI, the Director-General of ETSI shall immediately request the owner to give within three months an undertaking in writing that it is prepared to grant irrevocable licences on fair, reasonable and non-discriminatory terms and conditions [...]”. The

365 On the point, see: Piesiewicz G. and Schellingerhout R., “Intellectual Property Rights in Standard Setting from a Competition Law Perspective”, Competition Policy Newsletter, Autumn 2007, no. 3, p. 36 *et seq.*, also available at: [http://ec.europa.eu/comm/competition/publications/cpn/cpn2007\\_3.pdf](http://ec.europa.eu/comm/competition/publications/cpn/cpn2007_3.pdf)

366 The European Telecommunications Standards Institute (ETSI) is a recognized European standardization body, which produces globally-applicable standards for Information and Communications Technologies, including fixed, mobile, radio, converged, broadcast and internet technologies. ETSI operates as a not-for-profit organization with almost 700 ETSI member organizations drawn from 60 countries worldwide. For the official website, refer to: <http://www.etsi.org>

367 The ETSI IPR Policy was first adopted as an interim policy in November 1994, and confirmed as a permanent policy in November 1997, after protracted negotiations among the membership over many years, and ultimately achieving approval of the competition authorities in Europe, US and Japan. In November 2005 the General Assembly of ETSI approved the creation of a new IPR ad hoc group, whose work officially started in January 2006, to review the IPR policy and investigate issues like FRAND and cumulative royalties. The ensuing March 2007 IPR Policy may be consulted at: [http://www.etsi.org/WebSite/document/Legal/ETSI\\_IPR-Policy.pdf](http://www.etsi.org/WebSite/document/Legal/ETSI_IPR-Policy.pdf)

368 Art. 4.1, ETSI IPR Policy, Annex 6 of ETSI Rules of Procedure, March 29, 2007, available at: [http://www.etsi.org/WebSite/document/Legal/ETSI\\_IPR-Policy.pdf](http://www.etsi.org/WebSite/document/Legal/ETSI_IPR-Policy.pdf)

above undertaking may be made subject to the condition that those who seek licences agree to reciprocate”.<sup>369</sup>

Proceeding along the same path, the VMEbus International Trade Association (VITA),<sup>370</sup> a leading US standard-setting organization accredited by the American National Standards Institute, adopted new rules in 2007 requiring the disclosure not only of possibly relevant patents, but also of pending applications as a precondition for participation in standard setting activities.<sup>371</sup> Eventually, failure to disclose known essential patents on a prompt basis shall lead to a royalty free license encompassing the relevant claims of the concealed right acquired.<sup>372</sup> Likewise, the American Institute of Electrical and Electronics Engineers Standards Association (IEEE-SA)<sup>373</sup> implemented a policy in early 2007, also committing its members to similar criteria.<sup>374</sup>

Fundamentally, the constant escalation in patenting trends, coupled with the number of standards incorporating proprietary technologies, has raised the public awareness of the threat to competition that owners of patented specifications essential to a standard may exercise in lack of appropriate regulations. Because a patent required for the implementation of a standard reaches a much higher value once the latter is set, the system shall create a counter-incentive for the right holder who would attempt to extract the “ex-post” value earned by his technology, exponentially related to its “ex-ante” market value.

In this respect, while the role of competition authorities, such as the European Commission, is not to impose a specific IP policy on standard-setting bodies, but rather to shed some light on typically encountered antitrust issues,<sup>375</sup> the industry, as also convening in the framework of standard-setting organizations, has positively responded to the need to comply with the competitive parameters outlined.

369 Art. 6.1, ETSI IPR Policy, Annex 6 of ETSI Rules of Procedure, March 29, 2007, available at: [http://www.etsi.org/WebSite/document/Legal/ETSI\\_IPR-Policy.pdf](http://www.etsi.org/WebSite/document/Legal/ETSI_IPR-Policy.pdf)

370 VMEbus International Trade Association (VITA – VMEbus being a recognized computer-based standard) is an incorporated, non-profit organization of vendors and users having a common market interest in computing systems. Founded in 1984, VITA believes in and champions open system architectures as opposed to proprietary system architectures. For the official website, see: <http://www.vita.com>

371 The policy was adopted on January 17, 2007, following the US Department of Justice Antitrust Division’s Business Review Letter providing guidance to VITA on October 30, 2006, available at: <http://www.usdoj.gov/atr/public/busreview/219380.htm>

372 For an updated outline of VITA’s policies on disclosure and licensing of patents in standards, see: <http://www.vita.com/disclosure>

373 For the official website, see: <http://www.ieee.org/web/standards/home/index.html>

374 The policy adopted with regard to patent may be consulted at: <http://standards.ieee.org/guides/bylaws/sect6-7.html>

375 This view has also been expressed by Piesiewicz G. and Schellingerhout R., “Intellectual Property Rights in Standard Setting from a Competition Law Perspective”, Competition Policy Newsletter, Autumn 2007, no. 3, p. 38, also available at: [http://ec.europa.eu/comm/competition/publications/cpn/cpn2007\\_3.pdf](http://ec.europa.eu/comm/competition/publications/cpn/cpn2007_3.pdf)

From an antitrust perspective, the rationale behind the requirement of an “ex-ante” disclosure of patents in the context of a standard-setting process is founded on the need to promote competition on the basis of technological and economic convenience, rather than on positions of power retained by the holder of an essential standard-related technology “ex post”. A different solution would end up into the very same “hold-up” deadlock, should the patentee refuse to adhere to reasonable and open licensing terms, which the pool is finally committed to avoid. Besides, pursuing a policy of transparency as regards possibly relevant patents and the applicable licensing terms would enable competition among alternative specifications, eligible to be eventually incorporated into a standard, based on technical merits and more advantageous licensing conditions, eventually also considering suitable technologies freely available in the public domain. Accordingly, companies are going to be encouraged to compete more openly by promptly disclosing relevant technical assets and by proposing licensing terms likely to make their specifications more attractive for inclusion into a standard, where the final selection will finally reflect a thoroughly informed choice.

As far as the licensing terms adopted with regard to third parties to the pool are concerned, the Guidelines make a distinction and focus their attention on pools having a dominant position on the market, where “royalties and other licensing terms should be fair and non-discriminatory and licences should be non-exclusive”.<sup>376</sup> The Guidelines explain that: “These requirements are necessary to ensure that the pool is open and does not lead to foreclosure and other anticompetitive effects on downstream markets. These requirements, however, do not preclude different royalties for different uses. It is in general not considered restrictive of competition to apply different royalty rates to different product markets, whereas there should be no discrimination within product markets. In particular, the treatment of licensees should not depend on whether they are licensors or not. The Commission will therefore take into account whether licensors are also subject to royalty obligations”.<sup>377</sup>

### III. Assessment of Individual Restraints: Non-Compete, Grant-Back and Non-Challenge Clauses

#### 1. General Principles

There are three main clauses that are likely to be found with a certain frequency in the context of pooling agreements and that present a high level risk of distorting competition and ultimately hampering innovation:<sup>378</sup>

<sup>376</sup> Guidelines, *supra*, fn. 299, sect. 4 “Technology pools”, para. 226.

<sup>377</sup> *Id.*, para. 226.

<sup>378</sup> For an overview of the competitive impact of individual restraints most commonly found in technology transfer licensing agreement, more in general, see i.a.: Anderman S., “The New EC Competition Law Framework for Technology Transfer and IP Licensing”, In: Drexel J.