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## The FRAND Licensing Regime in a Standard-Setting Environment: “If it ain’t broken don’t fix it”

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### I. INTRODUCTION

Standard-setting activities, which aim to achieve device interoperability and product compatibility, play a fundamental role in fostering innovation and competition in a variety of markets. Such activities, typically carried out by armies of engineers, would generally not be expected to fascinate lawyers and economists. But they do - and they have recently received much attention as a result of high-profile cases,<sup>1</sup> complaints lodged with competition authorities,<sup>2</sup> and attempts by members of Standard-Setting Organizations (“SSOs”) to have their rules and procedures modified to prevent allegedly anti-competitive outcomes.<sup>3</sup> There seems to be a growing perception, largely fed by certain interest groups, that current standard-setting procedures generally based on the so-called FRAND licensing regime<sup>4</sup> unduly allow opportunistic holders of Intellectual Property (“IP”) embedded in a standard to extract excessive royalties from their licensees.<sup>5</sup>

Against this background, the objective of this paper is to demonstrate that the existing FRAND regime works. Ongoing proposals to alter it by tilting the bargaining position of licensors, in particular that of pure innovators, in favour of licensees are not only unnecessary, being based on false premises, but would also prove detrimental to investment and innovation. Fortunately, these attempts, and in particularly those to

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<sup>1</sup> See for instance David T. Beddow and Gregg H. Vicinanza, “FTC Charges Rambus With Abuse of Standard Setting Process”, Electronic Newsletter of the Intellectual Property Committee, American Bar Association (ABA) Section of Antitrust Law, 21 June 2002, available at [http://www.abanet.org/antitrust/committees/intell\\_property/june21.html](http://www.abanet.org/antitrust/committees/intell_property/june21.html); For a recapitulation of the well-documented Rambus saga, see the Federal Trade Commission’s (“FTC”) decision In the Matter of Rambus, Inc., Docket No. 9302, available at <http://www.ftc.gov/os/adjpro/d9302/060802commissionopinion.pdf>.

<sup>2</sup> See for instance “European Panel Investigates DVD-Standards Rivalry”, New York Times, 9 August 2006; “Qualcomm rivals take case to EU”, Financial Times, 28 October 2005.

<sup>3</sup> See for instance Robert McLeod, “ETSI talks failure puts onus on EC to resolve mobile telephone patent disputes”, MLex Comment, 13 November 2006.

<sup>4</sup> See Part III below.

<sup>5</sup> See Part IV below.

amend the rules and procedures of SSOs', have so far been unsuccessful. They remain nevertheless a constant threat.

This paper is divided in seven parts. Part II describes the main features of standard-setting processes, their significance and the strategic battles that may affect them. Part III focuses on the FRAND licensing regime traditionally prevalent in SSOs. Under this regime, owners of IPR that are essential to the standard typically commit to license such patents on "fair, reasonable and non-discriminatory terms". This Part begins by describing the scope of FRAND commitments. It then reviews the various meanings that have been attributed to the concept of FRAND and argues that a "FRAND royalty" cannot be determined in the abstract. Finally, the argument is made that, contrary to what has been suggested by a number of authors, by giving a FRAND commitment an owner of essential IPR cannot be deemed to have waived its fundamental right to seek injunctive relief in case its rights are infringed. Part IV reviews a number of academic studies which argue that the current FRAND regime has proved inadequate to prevent the emergence of a raft of perceived problems: anti-commons, patent thickets, patent hold-up, patent hold-outs, royalty stacking. It is shown that these studies have been seriously challenged and are subject to significant limitations. Moreover, it is argued that they fail to provide any empirical evidence of the problems denounced. Part V examines various proposals that have been made to reshape the FRAND regime. It shows that these proposals, most of which endorse - in one way or another - a compulsory regime of *ex ante* licensing, would create insurmountable practical difficulties and could raise serious competition law concerns. Part VI considers the applicability of Article 82 of the EC Treaty ("Article 82") to claims of excessive-pricing in the IP and standard-setting context. It shows that, should they be pursued, such claims would raise numerous conceptual and practical difficulties. Determining the competitive price of a tangible good is a notoriously complex undertaking, hence the European Commission's understandable reluctance to pursue excessive pricing cases except in a narrow set of circumstances. The potential for error will only be compounded when one deals with intangible assets. For these reasons, determination of appropriate royalty levels for valuable IP should be left to the market. Finally, Part VI contains a short conclusion.

## **II. GROWING IMPORTANCE OF STANDARD-SETTING PROCESSES**

In this Part, we successively review the objectives and benefits of standardization (Section A), the various forms of standards (Section B), the strategic battles taking place in SSOs (Section C), and the traditional IPR policies adopted by SSOs (Section D).

### **A. Objectives and Benefits of Standardization**

Industry standards ensure that products from multiple vendors are compatible and interoperable. A standard can be defined as a set of technical specifications which seeks to provide a common design for a product or process.<sup>6</sup> The welfare benefits deriving from the existence of standards are obvious. By allowing complementary or component

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<sup>6</sup> See Herbert Hovenkamp, Mark D. Janis & Mark Lemley, *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property Law*, (2003-04 Supplement) at 35.1.

products from different manufacturers to be combined or used together, they increase consumer choice and convenience, and reduce costs.<sup>7</sup> For instance, amongst other practical benefits, they allowed the authors of this paper to connect wirelessly to the Internet from different locations in search of relevant materials.<sup>8</sup> These consumer benefits can be especially important in network markets, i.e. where the value of a product or a service to a particular consumer increases with the number of consumers using the same product or service.<sup>9</sup> Examples of such markets abound in the information and communications technology (“ICT”) sectors, where protocols allowing devices to communicate seamlessly and networks owned by different providers to interconnect are essential.

In today’s technology-driven world, the importance of industry standardization, device interoperability and product-compatibility have become critical to promoting innovation and competition.<sup>10</sup> Standardization has been one of the key factors explaining the significant growth in innovation and product differentiation, which has arisen in the ICT sector. Of course, achieving product compatibility through standardization usually entails making choices, the effects of which will represent a cost. Standardization may at some point and to some extent constrain a variety of technological options by reducing competition between rival technologies.<sup>11</sup> As will be seen below, it may also raise issues related to access where, as is generally the case, the standard embodies proprietary technology covered by intellectual property rights (“IPR”).<sup>12</sup>

## **B. Various Forms of Standards**

Standardization may arise under three distinct sets of circumstances. First, a particular product or technical specification may evolve into a *de facto* standard through market dynamics, as a result of widespread adoption by consumers. This was the case, for instance, of the first commercially successful spreadsheet, Lotus 1-2-3. Second, in certain cases public authorities (governments, agencies or supra-national entities such as

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<sup>7</sup> See Amy A. Marasco, “Standards-Setting Practices: Competition, Innovation and Consumer Welfare”, testimony before the Federal Trade Commission and Department of Justice, available at <http://www.ftc.gov/opp/intellect/020418marasco.pdf>, p.3 (“Standards do everything from solving issues of product compatibility to addressing consumer safety and health concerns. Standards also allow for the systemic elimination of non-value added product differences (thereby increasing a user’s ability to compare competing products), provide for interoperability, improve quality, reduce costs and often simplify product development. They also are a fundamental building block for international trade.”)

<sup>8</sup> Shapiro illustrates the benefits of standardization with the following anecdote: “during the great Baltimore fire of 1904, fire fighters called in from neighboring cities were unable to fight the blaze effectively because their hoses would not fit the Baltimore hydrants. The following year, national standards for fire hoses were adopted.” Carl Shapiro, “Setting Compatibility Standards: Cooperation or Collusion?”, in Rochelle Dreyfuss, Diane Zimmerman & Harry First, Eds., *Expanding the Bounds of Intellectual Property*, Oxford University Press, 2001 at Section I.

<sup>9</sup> See Mark Lemley, “Intellectual Property Rights and Standard-Setting Organizations”, 90 (2002) *California Law Review*, 1889.

<sup>10</sup> See Marasco, *supra* note 7.

<sup>11</sup> On the other hand, standardization promotes competition within a standard, i.e. between products implementing the standard. See David Teece & Edward Sherry, “Standards Setting and Antitrust”, (2003) 87 *Minnesota Law Review*, 1913, at 1915.

<sup>12</sup> See Shapiro, *supra* note 8, at Section III.

the EU) will specify that certain products or processes must comply with a standard and thus compel manufacturers to adopt it. These are usually referred to as *legal* standards. Third, private organisations, often congregating dozens of member companies and individuals, may cooperatively agree on a standard. Such private Standard Setting Organisations (“SSOs”) may adopt a variety of structures and decision-making processes, and some will be formal whilst others will rely on informal method of cooperation. Their creation will often be prompted or supported by public bodies.<sup>13</sup> In this paper, we will focus on *SSO*-generated standards, as they are the most significant and raise the most important issues.

Standard-setting taking place in SSOs is typically open to all interested parties and is designed to foster consensus.<sup>14</sup> Participation is voluntary and the policies and decision-making procedures of formal SSOs endeavour to ensure that standards are developed in an open environment. Membership, however, implies accepting the terms and conditions set out in SSOs’ bylaws. Where these are perceived as burdensome or unfair, they will deter technology developers from joining. As a rule, each participating member has the opportunity to contribute to the scope of the standard, participate in its development, take part in the “consensus-driven” approval process, and make its positions known. Moreover, even once it is determined within an SSO that a particular process or technology should be standardized, the majority of SSOs allow for appeals by dissenting members.<sup>15</sup> These policies and procedures aim to allow the most appropriate technology to become standardized, based upon technical merit and other relevant factors and to ensure that no single participant can manipulate or abuse the standard-setting process. In that sense, their nature is often quasi-legislative. While firms compete to have their technologies included in a standard, checks and balances are generally built within the SSOs’ decision making procedures to ensure that the best technological option succeeds.

### C. Strategic Battles in SSOs

The significance of the outcome of the debate over the most suitable technologies to be incorporated into any given standard have occasionally severely strained the process. This is the result of the inevitable tension between the incentives that every firm has to promote its own proprietary technology as part of the standard and the need for SSO members to work together to develop, establish, endorse, and promote those standards.<sup>16</sup> This tension can be exacerbated by what may be a “winner-take-all” nature of standardization in sectors with significant network externalities such as the ICT sector.

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<sup>13</sup> For instance, the European Telecommunications Standards Institute (ETSI), headquartered in Sophia Antipolis, France, was formed in 1988 by the European Conference of Postal and Telecommunications Administrations (“CEPT”) and is officially recognized by the European Commission as the organization responsible for standardization of information and communication technologies within Europe. Its mission is to “develop globally applicable deliverables meeting the needs of the Information and Communications Technologies (“ICT”) community.” See generally Lemley, *supra* note 9.

<sup>14</sup> See Shapiro, *supra* note 8, at 4.

<sup>15</sup> See, for instance, Telecommunications Industry Association (TIA) Engineering Manual, Art. 13.2 and Annex A, Section A5, available at <http://www.tiaonline.org>

<sup>16</sup> See Shapiro, *supra* note 8, at 1.

Another factor contributing to the tensions that may arise in standard-setting processes, but also more generally in the interpretation of the IPR policies of SSOs (see below) relates to the fact that firms involved in standard-setting often wear different “hats” corresponding to the fundamentally different business models they adopt.<sup>17</sup> A distinction may be made between the following categories: (i) pure innovators or upstream-only firms (i.e., firms which develop technologies and earn their revenues solely by licensing them); (ii) pure manufacturers or downstream only firms (i.e., firms which manufacture products based on technologies developed by others but which have no relevant IPR); (iii) vertically-integrated firms (i.e., firms which develop technologies and manufacture products based on those technologies and the technologies of others; these firms may either license their technologies for revenue or choose not to engage in other than defensive licensing activities with their own IPR); and (iv) firms which do not create technologies or manufacture products, but buy products which are manufactured on the basis of patented technologies. These different firms operate in either the downstream product market, the upstream technology market or in both. As a result, their incentives are asymmetric, and their behaviour in the standard-setting context diverges accordingly, as explained below.

While there is a certain degree of fluidity between these categories, the following structure of incentives can be identified:

- Pure innovators are entirely dependent on licensing revenues to continue their operations. These revenues should be sufficient to cover the costs incurred in developing the technologies they seek or hope to license (including the costs of failed projects), as well as to give them sufficient incentives to engage in complex and risky projects.
- Pure manufacturers have converse incentives. As royalties represent a cost (not revenue) they have every incentive to reduce them. The lower the level of royalties payable to holders of IPR essential to the standards they practice, the higher their potential level of profits.
- Vertically-integrated firms that both develop technology and sell products have mixed incentives. On the one hand, they can draw revenue from their IPR if they so choose. On the other hand, they will have to pay royalties to other firms holding IPR essential to the standard for the products they manufacture. Since the bulk of the revenues (and profits) of these firms is generally made downstream, through product sales, they are much less dependent than pure innovators on revenues generated by royalties. In their licensing negotiations with other firms, they may well be more interested in protecting their downstream business from litigation than in charging royalties. They will therefore have a much stronger incentive to cross-license their own essential IPR in exchange for essential IPR held by other firms than in seeking royalties.

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<sup>17</sup> See Teece & Sherry, *supra* note 11, at 1929.

- The immediate incentives of buyers of products implementing standards relying on patented technologies are generally in line with manufacturers. They may consider that the royalties which manufacturers pay to IP holders will increase the price of the products they buy from such manufacturers. This will, however, only hold true if the product market is competitive. As will be seen below, the extent to which royalty savings are passed on to buyers will vary depending on the state of competition in the downstream market. If that market is not competitive, royalty savings are unlikely to be passed on.

#### **D. Traditional IPR Policies Adopted By SSOs**

Most formal SSOs have procedures, usually referred to as IPR policies, the primary goal of which is to address the two fundamental issues arising in standard-setting, i.e. disclosure and licensing of IPR incorporated into a proposed or adopted standard.<sup>18</sup> Although their scope may vary significantly, these procedures seek to encourage IPR owners to make their proprietary inventions available for standardization and use without imposing on them undue obligations. At the same time, SSOs' IPR policies strive to accommodate the interests of implementers to obtain access to the standardized technology, by avoiding situations where IPR owners refuse to license their technology essential to the implementation of a standard to protect, for example, their positions in downstream markets.<sup>19</sup>

Most SSOs encourage IPR owners involved in standardization to disclose upfront, i.e. prior to the adoption of a standard, the IPR that they consider may be "essential" for its implementation.<sup>20</sup> Early disclosure of patents, for instance, "is likely to enhance the efficiency of the process used to finalize and approve standards" and "permits notice of the patent to the standards developer [...] in a timely manner, provides participants the greatest opportunity to evaluate the propriety of standardizing the patented technology, and allows patent holders and prospective licensees ample time to negotiate the terms and conditions of licences [...]."<sup>21</sup>

However, as a rule SSOs do not impose an obligation on IPR owners to conduct a search for, or guarantee the disclosure of, all IPR that may be essential to a given standard. This would prove extremely difficult, as it would require the complex determination of whether a patent or pending patent application reads on a proposed standard. Indeed, this determination may not be feasible as the scope of a standard evolves through its development or, if the relevant IPR is a pending patent application, as claims are modified during prosecution. Moreover, it is generally recognized that a

<sup>18</sup> See Lemley, *supra* note 9, at 21 et. seq.

<sup>19</sup> See, e.g. ETSI Guide on IPR, Art. 1 ("The ETSI IPR Policy seeks a balance between the needs of standardization for public use in the field of telecommunications and the rights of the owners of IPR").

<sup>20</sup> ETSI defines "Essential IPR" as meaning "that it is not possible on technical (but not commercial) grounds, taking into account normal technical practice and the state of the art generally available at the time of standardization, ..... [to] comply with a standard without infringing that IPR." ETSI IPR Policy (version of 23 November 2005) at Art. 15.

<sup>21</sup> See Guidelines for Implementation of the ANSI Patent Policy, at 3, available at <http://www.ansi.org/>

