

Patent Pools: A Practical Perspective—Part II

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I. Introduction

Patent pools, *i.e.*, the practice of one or more patent owners to come together to license their patents as a bundle, have played a relevant role in the Standard Essential Patents (SEPs) licensing scenario for many years now. Part I of this article² exposes how the pools' pro-competitive effects typically outweigh the antitrust concerns, such as the risk of price-fixing or unlawful tying agreements.³ Indeed, patent pools are very flexible in the formation phase and usually facilitate the SEP licensing process by offering higher transparency, more efficiency and a reduction of transaction costs. This allows participants to address certain challenges, such as in the Internet of Things (IoT), where increasingly new stakeholders incorporate standardized technologies in their products or services but lack experience in SEP licensing. One example, Avanci for the automotive and smart meters manufacturers, is analyzed in detail.

Still, pools are not a “one-size-fits-all” solution. In some situations, SEP owners and implementers may

benefit from choosing other alternatives, such as bilateral negotiations. Some factors that influence the decision as licensor or as a licensee on which licensing model to adopt are the standardized technology involved, whether the pool has managed to attract the most relevant SEP portfolios, and whether it offers a compelling licensing program considering the different interests of the diverse stakeholders.

Part II (below) continues to explore how patent pools have addressed the above-mentioned challenges, with a focus on the pool aggregate royalty rates, the licensing process, the distribution of (the collected) royalties among members, as well as the role of the pool and its members in litigation.

II. Industry Approach Versus Patent Pools (continued)

a. Distributing the Revenues

Once the patents are gathered, pools offer different mechanisms to share the royalties amongst their members. The decision on how to share the royalties is completely up to the patent holders as the mechanism can have any shape they jointly decide in the facilitation process. The allocation of the royalties is generally a two-step procedure. The first step is a geographical distribution, usually designating 50 percent to the country of manufacture and 50 percent to the country of sale. The second step is to distribute the royalties among the members of the pool that own patents in those countries. Other structures such as “fixed shares” to all members of the pool based on their contributed portfolio also exist.⁴ Each pool decides the approach that best fits its members' needs, leading to significant differences from pool to pool.

The distribution sometimes relies on a point system, *i.e.*, the members are awarded points, and the revenues depend on the points received. The evaluation methodology to award such points can differ amongst pools.

4. Based on information collected during the interviews. An initial assessment of the value of each member's portfolio and allocation of a correspondent fixed share is made previous to the licensing of the patents, being as the place of selling is irrelevant for the distribution of royalties collected.

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2. Julia Brito, Hector Axel Contreras Alvarez, “Patent Pools: A Practical Perspective—Part I” (2021) 56 *les Nouvelles* 341 - 349.

3. The European Commission has stated in more than one opportunity the pro-competitive benefits of patent pools, as long as safeguards for antitrust risks are in place. See EC COM (2017) 712 final, Brussels, 29.11.2017, 7-8; EC Report on Patent Aggregation, and EU TTBER Guidelines 4.4. On the same note, the U.S. Department of Justice (DOJ) and Federal Trade Commission (FTC) assessed the benefits and risks of SEP patent pools in *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* (“U.S. IP-Antitrust Report,” available at <https://www.ftc.gov/sites/default/files/documents/reports/antitrust-enforcement-and-intellectual-property-rights-promoting-innovation-and-competition-report.s.department-justice-and-federal-trade-commission/p040101promotinginnovationandcompetitionrpt0704.pdf>), an understanding that has been applied and evolved over the years in its Business Review Letters (BRLs), available at <https://www.justice.gov/atr/business-review-letters-and-request-letters>.

Quantitative evaluations take into consideration how many SEPs an owner has successfully contributed to the pool. In other words, the more certified patents, the more royalties one will collect. This criterion is also known as *numeric proportionality*.

A qualitative evaluation, in turn, can be assessed in different ways. For instance, it may consider the patent holder's licensing revenue for the same patents prior to joining the pool, his technical contributions to the standard or even the level of investment (mainly into R&D) required to generate certain categories of SEPs.⁵ Some pools may also confer additional points to patents enforced by a patent holder against an infringer and that led to the infringer taking a license from the pool. This way the pools recognize the risk the member took by offering their patents for enforcement (with the consequent risk of being invalidated in court) and taking enforcement actions on their own (with the corresponding costs involved, that could eventually be reimbursed by the pool).⁶

A third option frequently used is a pool with a dynamic structure, *i.e.*, relying on both quantitative and qualitative factors. The goal is to balance the interests of the SEP holders and thus attract more participants (potentially with different business models) to the pool. A frequent concern of patent holders is the dilution of their royalty share. Licensees normally pay a fixed royalty rate for a license to all patents from the pool, including new ones eventually added by current or new members after joining the pool. This means that the addition of new patents and the joining of new members do not proportionally increase the royalty revenue, impacting solely the distribution of the

revenue to the members of the pool.⁷ To address this concern, some pools may negotiate an increase in the royalty fees with the licensees if the portfolio of the new SEP holder justifies it, or when the number of SEPs in the pool increases with a certain predefined percentage.⁸ However, this proves to be very difficult in practice. Thus, relying not only on quantitative but also qualitative factors can maintain the incentive to SEP holders to contribute their patents if they believe they are being rewarded for their proper value.

Another reason in favor of a dynamic structure relies on the fact that numeric proportionality could discourage some companies (with smaller portfolios or companies owning SEPs covering core technology of a standard) from joining the pool, because they would end up receiving much less than if the quality factors were also considered. To incentivize companies with smaller SEP portfolios to join, some patent pools reserve a fixed part (*e.g.*, 10 percent) of the royalties and share that equally among all licensors. Moreover, a numeric proportionality could encourage companies to game the system, for instance by filing as many divisional or continuation patent applications⁹ as possible in order to obtain a higher share of royalties. Some patent pools mitigate this risk by implementing measures such as limiting the number of points per patent family and not counting any divisional application filed after the announcement of the patent pool, or by implementing a global limit of points for patent holders. Numerical proportionality and the inclusion of many divisional patents in a pool may discourage companies with large portfolios from joining if they believe this results in a big dilution of the royalties and, especially,

5. See BRL Avanci 2020, 6; see also Ruud Peters, "One-Blue: a blueprint for patent pools in high-tech" (*IAM Media*, September/October 2012) 38, available also at https://www.one-blue.com/data/downloadables/4/5/iam-magazine_september-october-2011_article-oneblue.pdf: "In general, more costly research is needed for a physical format invention—the real hardcore technology—than for an application format invention. Moreover, physical format technology is used all the time in the product, whereas application format technology is often used only incidentally. Therefore, we decided to give more weight to physical format patents than to application format patents."

6. For example, Avanci in its 5G Program, cf. BRL Avanci 2020. Pools that do not have a point system for their revenue distribution typically offer mechanisms by which members that are willing to litigate their patents will have a higher share, normally up to a certain amount, of the revenues coming from the litigated implementer.

7. Some pools have as part of their licensing agreement the possibility of increasing the royalty rate in case of renewal, for example, with a limited cap (See BRL MPEG LA 1997). Also, it may be possible to renegotiate the royalty rate depending on additional SEPs added to the patent pool relating to additions made to the standard and the value such additional technology brings to the standard. Nonetheless, as a standard practice, the royalty rates paid by licensees do not suffer any change in the case of new patent holders and patents being added to the pool.

8. New pools may choose to establish the proposed royalty rate subject to the number of patent holders joining, for example, with the possibility of renegotiation after the agreed point is reached. The proposed royalty rate is valid only until the agreed number of patent holders and, after this point, a new royalty rate will apply to new licensees. This can be seen as an incentive to licensees to sign a license as soon as possible. Based on information collected during the interviews.

9. Divisional and continuation applications are a form of subsequent applications that "may be filed only in respect of subject-matter which does not extend beyond the content of the earlier application as filed" (also known as parent application). A common example for their filing "is that the parent application does not satisfy the requirements as to unity of invention (...) and the applicant wishes to obtain a patent for all the inventions," preserving the date of filing and the benefit of the right of priority. See Art. 76, European Patent Convention (at <https://www.epo.org/law-practice/legal-texts/html/epc/2020/e/index.html>), section 5.8 of the European Patent Guide (at https://www.epo.org/applying/european/Guide-for-applicants/html/ega_c5_8.html), and sections 201.06 thru 201.08 of the USPTO Manual of Patent Examining Procedure (at <https://mpep.uspto.gov/RDMS/MPEP/e8r9#e8r9/d0e7252.html>), all websites accessed on May 12, 2021.

that the value of their contributed SEPs are not being properly compensated in comparison to the other SEPs in the pool.

To conclude, bringing several companies with different goals to agree on a patent pool's revenue allocation structure can be a challenging endeavor. By doing so, including qualitative factors in the distribution of the revenues, although somewhat harder to develop, may lead to a more balanced count between patent holders. In practice, the dissatisfaction of some patent holders on a certain set-up of a pool may bring them to seek alternatives. For example, in the case of the High-Efficiency Video Coding technology (HEVC), the lack of agreement between patent holders led to the creation of three different pools on the same standard: MPEG-LA, Access Advance (formerly known as HEVC Advance), and Velos Media, whereas some large SEP owners decided to license their portfolios in bilateral negotiations.¹⁰ This multitude of pools on the same standard impacts (and decreases) some of the main benefits sought by patent pools, namely its efficiency and reduction of transaction costs by being a one-stop-shop.¹¹ In fact, multiple pools may have the opposite effect, creating inefficiencies in the whole licensing scenario.¹²

b. Setting the terms of the license

When setting the terms of the pool license, there are several elements to take into account.

10. See Jan Ozer, "A Video Codec Licensing Update" (*Streaming Media*, January 13, 2019) <<https://www.streamingmedia.com/Articles/ReadArticle.aspx?ArticleID=129386>>; and Richard Lloyd, "Nine pool members prepare to leave MPEG LA" (*IAM Media*, December 16, 2019) <<https://www.iam-media.com/frandseps/more-change-hevc-space-nine-pool-members-prepare-leave-mpeg-la>>, both accessed on March 30, 2021.

11. The possibility of the same holder joining more than one patent pool for the same standard can be regulated by the pool, and in case implementers take a license from both pools, a compensation procedure would apply to make sure that there is no double payment of royalties to the same licensor ("double dipping"). Nonetheless, pools such as Avanci prevent their members from joining other joint licensing programs with the same scope (standard/product) after they decide to join Avanci, as it has been disclosed in 5G Licensing Program and approved by the DOJ in BRL Avanci 2020 (p. 17/18): "This provision [preventing members from joining other programs] is unlikely to harm competition for a number of reasons. First, the provision allows for direct competition from pools formed before Avanci's and from independent licensing. Second, the provision allows competition from pools in closely related fields, including in licensing the use of component parts. (...) Third, Section 7.4 provides benefits to licensees. As licensors commit to Avanci, this provision may help to make the proposed Platform a more effective "one-stop-shop" for vehicle manufacturers to license cellular SEPs. To the extent it reduces the incentive for licensors to defect to other pools, it may also help to mitigate royalty stacking across multiple pool licenses. Thus, on balance, we conclude the provision is not anticompetitive as proposed."

First, as previously mentioned, patent pools increase their chances of success when they accommodate both licensor's and licensee's interests. Thus, when setting the terms of the license, patent holders have to create terms that are acceptable not only to current and future members but also to implementers in the market.¹³ It is common for patent holders who are also implementers to participate in the facilitation discussions, which automatically means that implementers' needs are being addressed too. Nonetheless, regardless of being both patent holder and implementer, each company normally has one business priority (increasing the royalty revenue, as a patent holder; or decreasing royalty exposure, as an implementer), thus being important to always seek a balance.

Second, since the formation of a pool can be a challenging and costly endeavor, a large market (with multiple relevant licensees) is more likely to compensate for the effort.¹⁴ Most patent pools, therefore, are established for standards that are widely adopted and generate a large market, and thus substantial potential royalty revenues.

Third, antitrust concerns should be taken into account. Once the parties come together, they need to agree on several terms, such as governance rules, the scope of the license, terms to become a licensor, how patents will be evaluated, the royalty rate that will be charged to licensees and how the royalty revenue will be shared between members, among others. This collaborative exercise may raise antitrust concerns about parties' potential engagement in collusive conducts, such as price-fixing, market allocation, and other exclusionary licensing practices. To mitigate these risks, patent pools normally involve antitrust counsels in the discussions, and/or consult with the competition authorities on whether the

12. "Multiple pools can lead to an excessive royalty stack because potential licensees making products that practice the standard may feel compelled to obtain a license from each individual pool (as well as those SEP-holders that do not offer their patents through pools). (...) with SEP-holders establishing multiple pools for overlapping standards, the efficiencies achieved in terms of purportedly reducing transaction costs are lessened, and licensees are at greater risk of having to pay aggregate royalties in excess of FRAND." John 'Jay' Jurata, Jr. & Emily N. Luken, "Glory Days: Do the Anticompetitive Risks of Standards-Essential Patent Pools Outweigh Their Procompetitive Benefits?," (June 8, 2020) 13-14, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3622615.

13. If the price for the offered patents, for example, is too low, licensors will be discouraged to participate. But if the price is too high, the pool would not attract sufficient licensees and, consequently, would result in the failure of the pool.

14. Knut Blind, *et. al.*, "Study on the Interplay Between Standards and Intellectual Property Rights" (IPRs) (Publications Office of the European Union, 2011), 83.

pool licensing program is likely to harm competition (or it contains enough safeguards).¹⁵

Fourth, even though new business models are being developed by different licensing platforms, a common characteristic of pool licenses is that the key terms are often *non-negotiable*. Conditions such as scope (field of use), licensing level, and price are fixed for all licensees. The members normally pre-establish and allow the pool administrator limited flexibility to negotiate other terms of the license, such as choice of law, payment term, or tax clauses. Any change that differs from the standard license and goes beyond the pre-approved modifications is treated as an exception, must remain within the F/RAND¹⁶ framework, and demands consultation with and approval from the members.

Fifth, in setting the pool royalty rate normally various elements are considered, including (i) the licensing history for standards related to similar technologies (for example standards for earlier technology generations: 2G, 3G and 4G) in order to examine whether comparable agreements can be used and (ii) the value of the technology to users.¹⁷ Patent owners also have to respect their own pricing policy in regards to F/RAND, meaning their understanding and practice of what F/RAND is for their own portfolio.¹⁸

Sixth, the royalty structure can have different forms, varying from pool to pool and from product to prod-

uct: a fixed royalty per unit sold, a royalty equal to a percentage of the sales price of the unit sold, or lump sums, among others. The pool may also offer some incentives to licensees, such as compliance rates, volume discounts or early-bird discounts. Compliance rates are normally discounts given to implementers that abide by the terms of the license, *e.g.*, fulfilling the payment term and not underreporting.¹⁹ Volume discounts relate to possible discounts considering the level of implementers' sales. For example, some pools offer to implementers not to pay for the first 1,000 units sold as an incentive to small companies to sign licenses, facilitating also the adoption of the standard by the market. On the other hand, it is also possible to offer discounts if the sales of the licensed units exceed certain thresholds, *e.g.*, above a certain number of units sold, the rate could be *X* percent lower. Another possibility would be to offer a royalty cap, meaning that if an implementer achieves a certain number of units, it will not need to pay royalties for any products sold beyond the cap (also known as "enterprise cap"). Lastly, early-bird discounts are offered to incentivize implementers to sign the license as soon as possible, *e.g.*, within a maximum of six months of the launch of the program.²⁰ It is important to note that when giving any discounts on royalties to be paid, patent pools still need to avoid discrimination among similarly situated licensees.

Seventh, another way to motivate licensees to sign in a timely manner is to add damages for the past

15. In the U.S., the DOJ has issued several BRLs over the years, by which, upon request of the interested party, a first analysis of the pool's proposed structure is made. Note that BRLs, as with other competition guidelines, only set limits and clear the competition authorities' lack of intention to challenge the pools based on certain conditions and on the information provided. It does not mean these organizations are not still subject to scrutiny if the authorities perceive anticompetitive effects in practice or failure in implementing the safeguards (see note 3, *supra*, for access to all BRLs). In the EU, the Guidelines on the application of Article 101 of the Treaty on the Functioning of the European Union to technology transfer agreements (TTBER) set the considerations to be followed when forming a pool as to comply with Article 101 of the Treaty on the Functioning of the European Union (TFEU). Section 4.4. The European Commission (EC) has several times advocated in favor of encouraging patent pools. Nevertheless, it has also recognized that in the assessment of the potential competitive risks and efficiencies, the EC will "take account of the transparency of the pool creation process; the selection and nature of the pooled technologies, including the extent to which independent experts are involved in the creation and operation of the pool and whether safeguards against exchange of sensitive information and independent dispute resolution mechanisms have been put in place." EC COM(2017) 712 final, Brussels, 29.11.2017, 8.

16. F/RAND stands for Fair, Reasonable and Non-Discriminatory terms and conditions. F/RAND commitments are made by members of the SDO to offer access to the standardized technology and allow for wide dissemination of the standard. See Introduction in Part I.

17. The licensing fee of a SEP should consider the overall value added by such standard technology to the end-device and what it offers to the end-user. Enlightening the concept of value added, Nicolas Petit gives as example the comparison between an iPhone and an iPod: "both use similar components, but one implements patented connectivity technology, not the other. And the value added to the end user changes dramatically." (in "The Smallest Salable Patent-Practicing Unit (SSPPU) Experiment, General Purpose Technologies and The Coase Theorem" (February 18, 2016) 3, available at <https://ssrn.com/abstract=2734245>).

18. One Blue has a specific rate for each "product pool" (<<https://www.one-blue.com/license-programs/>>). Avanci, in a similar way, has different rates for the automotive industry and for the smart meter industry making use of wireless technology (<<https://www.avanci.com/wp-content/uploads/2020/03/Avanci-White-Paper.pdf>>). Sisvel, for its turn, offers in their website documents explaining the rationale and 'FRANDness' of their pools (see, for example, <https://www.sisvel.com/MCP/3G_Royalty_Rate.pdf>). All websites accessed on March 31, 2021.

19. To understand One Blue's strategy to deal with the problem of underreporting, see Ruud Peters' article for *IAM Media* (see note 5, *supra*).

20. Some pools may be more skeptical about the effectiveness of early-bird discounts, especially if there is space to argue about the willingness of the parties and the duration of the negotiation process conducted by the pool.

sales. While licensees are required to compensate for the past unlicensed use of the patented technology, some pools also apply interest rates on them (e.g., 10 percent). This practice has the potential to mitigate hold-out,²¹ as the more time the implementer takes to sign the license, the more expensive it will become. In practice, however, it has shown to be difficult to charge these interest rates and frequently licensees are given discounts on their past use payments to get them to sign the license.

Eighth, as a general rule, the defined price at the facilitation process is static, meaning that it will remain the same, at least for the term of the license. This applies even if patents (from the existing or new members) are added to the pool or if patents expire during the term of the agreement. Some pools provide the possibility of renegotiation when renewing the contract after the expiration of the term, so that the situation can be reassessed in case a valuable portfolio is added to the pool. However, as it is challenging to convince implementers to agree on any increase in the royalty rate compared to the previous license, as a rule, pools offer implementers the same or a slightly increased royalty rate upon contract renewal.

Ninth, the goal of the patent pool is to achieve a royalty rate that is lower than the aggregate royalty that licensees would obtain if engaging in bilateral negotiations. This is generally achieved due to the reasons mentioned above.²²

Tenth, the mere fact that a royalty has been set by a patent pool does not necessarily mean it is a F/RAND rate. However, the more licensees have accepted the pool license terms, the harder it will become to challenge the fairness and reasonability of the offer.²³ SEP

21. Hold-out appears when patent implementers successfully refuse to agree on and be bound by licenses on F/RAND terms, or delay F/RAND negotiations in order to force SEP holders to settle for lower rates, to avoid lengthy and costly litigation. Vincent Angwenyi, “Hold-up, Hold-out and F/Rand: The Quest for Balance” (*GRUR Int.* 2017) 105.

22. As explained by the District Court of Düsseldorf, “[w]ith a licensing of a larger pool having property rights from numerous businesses, normally lower licensing fees are paid for each patent than with the licensing of the portfolio of just one business and a lower overall number of property rights. An additional property right in a pool license does not result in a proportional increase in the licensing fees, but rather, a significant digression of the licensing fees occurs with each additional patent being included in the pool. Therefore, it is not compelling evidence of the unreasonableness of the demanded licensing fees when lower licensing fees are paid for the same patent in a larger license pool than in a license pool having a lower overall number of protection rights.” [non-official translation]. See *Saint Lawrence v Vodafone*, District Court Düsseldorf, 31 March 2016 - Case No. 4a O 73/14.

holders normally offer a pool administrator to grant non-exclusive licenses under their patents to licensees of the pool. This allows them to individually license their patents outside of the pool, preserving competition in the market.²⁴ Also, independent licensing out of the pool “permits innovators that invent around one or more pool patents to compete with the pool.”²⁵

Eleventh, the terms must be offered to potential licensees on a non-discriminatory basis, hence preserving competition and contributing to a more level playing field among them. This does not, however, necessarily mean that the rate will be exactly the same, because some incentives may apply only to some licensees but not to others (e.g., early-bird and volume discounts).

Twelfth, the licensing terms, including a list of the patents and licensors, are usually made public by the pools.²⁶ Many patent pools also publish a list of licensees, to the extent possible due to confidentiality obligations. This all contributes to a transparent licensing environment and reduces searching and transaction costs.

c. Licensing

Once the potential licensees are identified, patent pools normally send them a notification letter, which is normally accompanied by an explanation about the pool, the benefits they offer, the reasons they believe the addressed company requires a license, and, last but not least, the licensing terms (including the list of patents and royalty rates). Some pools also take an educational approach, being active in events and advertising the program in the market, aiming to construe a more informed and trusted environment and facilitate the licensing process. As a general rule, Non-Disclosure Agreements (NDAs) are typically not required in that phase. Confidential information is to be shared after parties have reached an agreement and would

23. The “royalties rates are fair and reasonable. This conclusion is indicated by the fact that, up to January 2020, more than 40 licensees selling product categories like the one accused in the present action have concluded the standard licensing agreement with corresponding royalties, (...)” *HEVC (Dolby) v. MAS Elektronik*, District Court (Landgericht) of Düsseldorf, 7 May 2020, Case No. 4c O 44/18, para. 255.

24. “The proposed 5G Platform allows for independent licensing outside of the Platform, which also lessens potential competitive concerns because licensors preserve their ability to compete with the pool license.” BRL Avanci 2020, 16.

25. U.S. IP-Antitrust Report, 80.

26. Some pools make available all the information on their website, such as Sisvel and One Blue. Others publish some of the terms on their website and make more information available upon request to every interested party, as it is the case with MPEG LA and Avanci.

be covered by confidentiality clauses present in the licensing contract. However, if for negotiation purposes the exchange of confidential information is necessary, *e.g.*, sales numbers regarding past-use discussions, shipment information and, eventually, sharing of claim charts, an NDA may apply.

The length of negotiations can vary depending on the implementer. While the essentiality of the assessed patents in the pool is normally not contested, if the implementer decides to do so, this would increase the time of negotiation. In general, the time to conclude a F/RAND license will heavily depend on the knowledge and willingness of the implementer, as well as the number of licensees that have already signed a license with the pool. The more licensees a pool has, the easier it is to sign up a new one.

A common fear amongst implementers is either to pay for a license its competitors are not paying for, or pay more than its competitors, directly affecting its competitive chances on the markets in which they are active. This fear may be mitigated if they get the assurance that their competitors (i) have taken a pool license, (ii) the license has been signed on similar, non-discriminating terms, and (iii), to the extent not yet licensed, the pool will undertake efforts to get them licensed.²⁷ Signing the first licensees can be challenging for a patent pool, a reason why they typically offer the above-mentioned incentives to earlier licensees.

Furthermore, it may occur that licensees have at least a few bilateral negotiations in place before being approached by the pool. Also, some implementers may prefer to have bilateral negotiations with at least some of the licensors in the pool. This is due to the fact that in bilateral negotiations parties can address their interests towards each other and negotiate not only the licensing of SEPs but also non-essential patents, possible cross-licensing, sharing of know-how, and special clauses, among several other topics. The type of technology also plays a role when it comes to deciding about a pool license. If the pool offers a limited field of use compared to the users' needs, or if the implementer believes it needs more than one standardized technology from the same patent holder (*e.g.*, cellular and codec), it may prefer negotiating all as a bundle directly with the patent holder. Besides that, some implementers may use a pre-existing commercial rela-

tionship with patent holders to leverage their position in bilateral negotiations, thus favoring this path.

To avoid “double-dipping,” *i.e.*, collecting royalties twice for the same invention within a product, patent pools generally present rules on compensation for the cases in which a licensee already has in place a bilateral license with one or more licensors of the pool, *e.g.*, with credits or reimbursements. The procedure is known as “netting.” In the case of pre-netting, the pool's royalty rate is reduced in proportion to the patents to which the licensee already has a bilateral agreement. And in the case of post-netting, the licensee shall pay the full royalty rate to the pool first and obtain reimbursement from the patent holder with which he has a license already thereafter.

In the end, it all comes down to financial strategic thinking. Within that consideration, estimating the chances of enforcement plays a significant role. Not all patent owners have the same willingness or resources to enforce their patents individually in case of infringement. Therefore, aiming to maximize their profits and pay as low licensing fees as possible, some licensees engage in bilateral licenses only with patent holders they believe are going to take enforcement actions. This is a risky move as it cannot be foreseen whether a company will enforce its patents or not, or if the patents of a patent holder may end up in the hands of a more aggressive licensor.

Generally, pools act as intermediaries between patent holders and implementers in a non-aggressive manner. Indeed, some patent holders prefer to join patent pools as a non-offensive strategy to preserve other commercial relationships they may have with implementers.

d. Enforcement

Regardless of how much transparency and benefits a pool can offer, there will always be situations in which enforcement will be the only option to engage in licensing agreements with unwilling implementers and, thus, indispensable to the success of the licensing program.²⁸

Patent pools present different approaches when it comes to enforcement strategy.²⁹ Some pools are supportive of litigation, while some others focus on the licensing and management of royalties. It depends on their competences, the strength of the

27. Pool licenses are offered on the exact same terms for similarly situated parties. Similar conditions refer to, for example, business model, product, market, etc. For these parties, the royalty rate and offers will always be the same. The final prices can differentiate among these parties if they have different business models, for example, or if one licensee was eligible to a certain discount that the other was not.

28. As a learning from their previous program (2G-4G), Avanci introduced benefits in their 5G program to patent holders willing to enforce their patents, such as additional royalty points and reimbursement of costs (BRL Avanci 2020, 6). Incentives to litigation can also be found in other successful pools.

29. An administrator of several pools may choose with the SEP holders of different pools a different enforcement strategy for each of them.

portfolio and, ultimately, on the patent holders' willingness to litigate.³⁰

Unless the patent pools' administrators are also owners of SEPs in the pool,³¹ they usually do not have legal standing in the majority of jurisdictions to enforce the patents themselves. Thus, some pools have introduced ways of incentivizing enforcement by their members if this derives benefits for the whole pool, *i.e.*, the enforcement action is approved by the members. This can be done, *e.g.*, through conferring additional points for those licensors who enforce their patents. Another option is to create a litigation fund³² that would support the process and reimburse the costs of the patent holders who enforce their patents.³³

It is up to the patent pool administrator to bring to the attention of the patent holders the potentially unwilling implementer(s). Some pools, with the assistance of their outside counsel, offer support in the form of due diligence, additional research on novelty issues, checking of files and, generally, provide information that may be useful to the patent holders' decision. The enforcement effort, nonetheless, is typically in the licensors' control. The pool administrator may be also a patent holder and participate as a licensor in the pool (*e.g.*, Sisvel) and enforce patents in such capacity.

Not all patent holders are willing to initiate patent litigation. Enforcing their patent does not only mean costs but also risking commercial relationships and public relations. Also, by initiating litigation, patent holders can face essentiality and validity challenges from implementers. That is where the enforcement incentives play an important role, by financially supporting patent owners in the process.

Trying to overcome pool licensors sharing in the revenues of a license signed after enforcement, but without putting their patents at risk, One Blue presented a different approach: it obliged their members

to contribute their patents if a decision of enforcement was made.³⁴ If any party refused to do so, it would not be entitled to enjoy any part of the potential revenues resulting from the enforcement. Once it was agreed to litigate, the pool's outside counsel selected what he considered the best patents to be enforced (normally, the ones that have already been successfully tested in other lawsuits, or patents considered best situated to survive essentiality and validity challengers, and ideally also easy to explain to the judge or, potentially, to a jury). The parties whose patents were selected for litigation enjoyed a bigger share of damages and royalties.

Some implementers have argued in court that patent pools selectively enforce their patents, thus violating the non-discriminatory prong of F/RAND.³⁵ While such a claim needs to be assessed on a case-by-case basis, courts have recognized that refraining from enforcement against all users does not necessarily mean discrimination.³⁶ Nevertheless, it is important for a pool to create a leveled playing field for its licensees to undertake sufficient effort to license any unlicensed implementers that create a competitive benefit from being unlicensed.

III. Conclusion

New technological developments, such as the IoT, represent challenges for patent licensing and interoperability. Patent pools could be a mechanism to deal with such challenges. Despite the antitrust risks that may arise from them, authorities have weighed in for patent pools and recognized their benefits when licensing SEPs, mainly their efficiency, transparency, and reduction of transaction costs. By presenting themselves as a one-stop-shop, patent pools could facilitate the licensing among the several stakeholders. Licensors would not only benefit from the reduction of costs associated with the licensing negotiations, but also from reasonable compensation for their investments. Licensees, on the other hand, could benefit from the information provided by pools (*e.g.*, essentiality checks), lower transaction costs and discounted royalties and, thus, enjoy greater assurance when competing in a leveled playing field.

30. MPEG LA's AVC pool is more active in enforcement than compared to other pools administrated by them (see <<https://www.mpegla.com/media-legal-action/>> for information on AVC's lawsuits, website accessed on May 12, 2021). Pools with good acceptance from implementers are easier to enforce.

31. As it is the case of the pool administrator Sisvel, for example.

32. The litigation fund is normally backed by a percentage of the royalties' revenue and the contribution to the fund is proportional to the patent holders' royalty share.

33. The U.S. DOJ has already manifested a positive view on enforcement incentives as they "under certain circumstances are intended to discourage hold-out by licensees and assist enforcement, which benefits both large and small licensors." (BRL Avanci 2020, 11).

34. See note 4, *supra*.

35. See District Court of Düsseldorf, 11 July 2018, Case-No. 4c O 81/1, at para. 273-274; and District Court of Düsseldorf, 7 May 2020, Case-No. 4c O 44/18, at para. 321-323.

36. The phase of adoption of the standard, the costs and procedural risks involved, the knowledge of the holder regarding the infringement and its extent are factors to be considered in such assessment. See District Court of Düsseldorf, 11 July 2018, Case-No. 4c O 81/1, at para. 273-274; and District Court of Düsseldorf, 7 May 2020, Case-No. 4c O 44/18, at para. 321-323.

Academic analysis of the benefits and disadvantages of pools is abundant but sometimes disconnected from the real world. In practice, the decision to license through a patent pool is not straightforward. First, patent pools are not one-size-fits-all. Born out of contractual negotiations, patent pools can have different structures that potential licensors need to assess before joining them. Also, licensees may be in certain scenarios better placed by not taking a license directly from a patent pool. There is no specific model for patent pools to follow. It is true that most of them share a basic set-up and, thereof, the overall benefits and disadvantages can be assessed by the interested parties. Nonetheless, it is equally certain that each patent pool is shaped and structured according to the necessities of the standard at hand and, undoubtedly, to the patent owners' individual business incentives, a reason why a per-case analysis by stakeholders remains necessary.

There are also financial aspects to be considered, the most common ones being the costs of creating a pool and whether the parties would get better deals through bilateral licensing. Other typical factors assessed by parties are the type of technology involved, the existence of a licensing department in-house, the mechanism for distribution of royalties, the strength and relevance of the patent portfolio offered by the pool, and the chances of enforcement/risk of litigation

(from the licensor and licensee's point of view, respectively). Sometimes, bilateral negotiations (or other types of licensing) can be better suited for the specific circumstances faced by the parties.

The success of a patent pool relies heavily on its acceptance by both licensors and potential licensees. Thus, the most substantial concern (and also the biggest challenge) is to make sure that their terms address the different business models and goals presented among licensors and, ultimately, also consider the potential licensees' interests. The percentage of the SEPs that are pooled is also a crucial factor that influences the performance of a pool. The more SEPs, the more attractive it will be for both licensors and licensees to choose the pool as the most viable licensing option, as history has shown with successful licensing programs offered through patent pools.

Each environment is different, and each circumstance needs a case-by-case assessment of whether a pool is the best licensing model or not. Policymakers can provide guidance on the means to achieve a balance between the licensees and licensors, but they should also allow and encourage the market to explore new solutions, such as Avanci for automotive and smart meters. ■

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