



BY PATRICK McCUTCHEON<sup>1</sup>



<sup>1</sup> Senior expert at the European Commission, DG research and Innovation. This paper comprises personal reflections and does not necessarily represent the position of the Commission.

# CPI ANTITRUST CHRONICLE MARCH 2020

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## I. INTRODUCTION

In certain technological areas, particularly those involving key enabling technologies in the ICT sector, ownership of technologies and the patents that read on them has become fragmented. This has created challenges in the technology market for both buyers and sellers or, as is more commonly the case, licensors and licensees. Licensees are faced with the challenge of negotiating licenses with several patent holders. This is particularly the case when the patents read on standards whose implementation inevitably involve the infringement of standard essential patents (“SEPs”) unless these are subject of a license agreement. Patent holders, depending on whether they are vertically integrated or focus on R&D, may have different objectives for their licensing programs. In the case of enabling technologies which have a wide range of applications and support other technologies, users are also heterogeneous in their application of the technology and the value of said technology to their application varies accordingly.

In a context where both sides of the technology market face the challenge of negotiating licenses with several counterparties with heterogeneous business models, one mechanism to simplify the negotiation has been the creation of patent pools or other forms of aggregation of intellectual property rights. In the case of standard essential patents where licensees would need to negotiate with several patent holders, a patent pool or pools would limit the number of transactions licensees would need. Furthermore patentees, by jointly licensing, would similarly reduce their costs in running licensing programs.

This article recalls the provisions of the EU antitrust technology transfer guidelines and horizontal guidelines, reviews the issues that led to the European Commission creating an expert group on the aggregation of patents some years ago and the current relevance of their findings, and considers some subsequent developments.

## II. EU ANTITRUST GUIDELINES ON TECHNOLOGY TRANSFER AND HORIZONTAL GUIDELINES

Where the creation of a patent pool inevitably involves collaboration between companies operating at the same level of a value chain and often competing for the inclusion of their technology in the development of a standard, there is a potential for antitrust issues to arise. Article 101 of the Treaty on the functioning of the EU addresses anticompetitive behavior based on collusion as follows:

Article 101

(ex Article 81 TEC)

1. The following shall be prohibited as incompatible with the internal market: all agreements between undertakings, decisions by associa-

tions of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the internal market, and in particular those which:

- (a) directly or indirectly fix purchase or selling prices or any other trading conditions;
- (b) limit or control production, markets, technical development, or investment;
- (c) share markets or sources of supply;
- (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
- (e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.

2. Any agreements or decisions prohibited pursuant to this Article shall be automatically void.

3. The provisions of paragraph 1 may, however, be declared inapplicable in the case of:

- any agreement or category of agreements between undertakings,
- any decision or category of decisions by associations of undertakings,
- any concerted practice or category of concerted practices,

which contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit, and which does not:

- (a) impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives;
- (b) afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.

As the pooling of patents is seen as increasing efficiencies in terms of reducing transactions costs, it is recognized that these efficiencies may sufficiently offset concerns of anti-competitive behavior as provided for under the third paragraph of Article 101. In addition to this Treaty provision, the European Commission offers specific guidance on patent pools in its Guidelines on technology transfer agreements.<sup>2</sup> These guidelines set out the principles for the assessment of technology transfer agreements under Article 101 of the Treaty on the Functioning of the European Union where such agreements are defined in Article 1(1)(c) of the technology transfer Block Exemption Regulation.<sup>3</sup>

Specifically, paragraph 245 indicates that “Technology pools can produce pro-competitive effects, in particular by reducing transaction costs and by setting a limit on cumulative royalties to avoid double marginalization. The creation of a pool allows for one-stop licensing of the technologies covered by the pool.” Paragraph 246 then states that “*Technology pools may also be restrictive of competition*” and that “The creation of a technology pool... in the case of pools composed solely or predominantly of substitute technologies amounts to a price fixing cartel” and that “technology pools may also result in a reduction of innovation by foreclosing alternative technologies.”

For these reasons, per paragraph 247, “Agreements establishing patent pools and setting the terms and conditions for their operation are not ... covered by the block exemption”<sup>4</sup> and “Such agreements are addressed only by these guidelines.”

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2 Communication from the Commission, Guidelines on the application of Article 101 of the Treaty on the functioning of the European Union to technology transfer agreements (2014/C 89/03) of 28.03.2014.

3 Commission Regulation (EU) No 316/2014 of 21 March 2014 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of technology transfer agreements.

4 *Ibid.*

Whereas paragraph 245 also states that “There is no inherent link between technology pools and standards, but the technologies in the pool often support a de facto or de jure industry standard,” the consideration of the conformity of standardization agreements with Article 101 is subject to assessment under the Commission’s horizontal guidelines.<sup>5</sup>

These latter guidelines, now subject to a review process, state in paragraph 263 that “Standardisation agreements usually produce positive economic effects...” and “Standards normally increase competition...” and that per paragraph 264, “Standard setting can however... also give rise to restrictive effects on competition...” These guidelines outline, in paras 280-286, where such agreements fall outside the scope of Article 101, and in paras. 308–324 offer guidance on how the assessment should be carried out.

### III. EUROPEAN COMMISSION EXPERT GROUP ON PATENT POOLS

At the time of the second Barroso Commission, the Commission published its most recent policy statement on Innovation,<sup>6</sup> which called for a series of actions to boost the innovation capacity of the EU. This included a commitment to make proposals on the development of a knowledge market and consider, i.e. ideas such as promoting patent pools and innovation brokering. The European Commission established an expert group to investigate whether there is a need for EU-level intervention to foster the development of patent or technology markets, in particular through the aggregation of patents. This built on a Staff Working Document,<sup>7</sup> from an earlier group that examined options for patent valorization and other then-recent studies. The premise was that some patents might be either more valuable and or more likely to be used if they were aggregated in some way.

The latter consideration was based on the notion that, where only a small percentage of granted patents are exploited, such aggregation could enable the use of more patents and both spur innovation and ensure exploitation of the results of R&D investments.

The group of independent experts comprised of jurists and economists recognized that the market for patents is compromised by a lack of transparency, asymmetry in information, and high transaction costs and that, although not all patents have commercial value, potentially valuable patents are not being exploited. The group identified that one reason for the latter is often the immaturity of the underlying technology and the need for significant further investments to de-risk the projects. Other reasons included the challenge to value patents, uncertainty on patent quality, lack of access to risk capital, challenges in negotiation, complexity in the case of ICT patents, and challenges for smaller entities.

The group reflected on the opportunities for patent aggregation to address some of these challenges and the role, if any, that the European Commission or Union or other public intervention could play in fostering the creation and use of patent pools and other form of aggregation. The group made a number of observations, as follows.

Patent pools are particularly relevant in the context of standard setting as their aggregation of patents that are essential to the implementation of a particular standard can facilitate the uptake and diffusion of a new standard, and as such pools are seen as procompetitive as is recognized in the European Commission’s Guidelines on technology and horizontal guidelines.<sup>8</sup> The group recognized that other patent pools are created for other purposes, such as ensuring access to medicines.

The group concluded that pools can solve the problem of dispersed ownership by reducing the number of transactions, and hence transaction costs, for both sides. They also considered that pools could be an instrument used to develop and deploy technical solutions to address social needs where private interest may be insufficient. The experts were of the view that the public sector might consider fostering the setting up of patent pools in the case of specific strategically important technologies where lack of aggregation may be an obstacle to advancing and commercializing technologies. Beyond such specific cases, the experts were, however, of the view that the public sector should not support patent pools as a general means to foster innovation.

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5 Communication from the Commission, Guidelines on the applicability of Article 101 of the Treaty on the functioning of the European Union to horizontal co-operation agreements (2011/C 11/01) of 14.01.2011.

6 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Europe 2020 Flagship Initiative Innovation Union, COM(2010) 546 final [http://ec.europa.eu/research/innovation-union/pdf/innovation-union-communication\\_en.pdf#view=fit&pagemode=None](http://ec.europa.eu/research/innovation-union/pdf/innovation-union-communication_en.pdf#view=fit&pagemode=None).

7 <https://ec.europa.eu/docsroom/documents/9963?locale=en>.

8 See *supra* notes 2 and 5.

Regarding other forms of aggregation, the group did not support the idea of public funded technology development funds which were being launched in the early part of the decade 2010-2020, both because there was at that time little evidence of their success and a sense that there was no market failure when several novel business models were being tested. Subsequently, a number of these funds or intermediaries have either closed or changed their business model.

The specific recommendations of the group were to consider supporting mission-oriented pools, the establishment of technology development (as opposed to trading) funds, and to consider in antitrust guidelines conditions where it could be permissible to include substitutable patents in pools and, in the context of standard setting, discuss royalty levels.

Around the same time, the European patent office convened a meeting of its scientific advisory board (“ESAB”) to discuss. Their conclusions<sup>9</sup> were broadly similar, as outlined below.

On the one hand, patent aggregation may solve particular issues and shortcomings of patent markets, making them liquid and efficient. Patent aggregation may even facilitate the establishment of markets for technologies. This could allow for a more efficient use and dissemination of innovation, which should help increase dynamic competition. Furthermore, patent aggregation may imply additional rewards to innovators, thus possibly improving incentives to invest in innovation.

On the other hand, patent aggregation may result in anti-competitive behavior which could impede innovation and reduce welfare. Although most participants agreed that patent aggregation may have net social benefits, the effects of patent aggregators on competition should be monitored. The discussion during the workshop has made it clear that, since most aggregators are neither “bad” nor “good” and follow different strategies, their behavior should be assessed on a case-by-case basis.

Furthermore, many experts were of the view that European competition policy and competition authorities already have legislation in force and instruments at hand to deal with such anti-competitive behavior.

Subsequently, the European Commission has launched a financial instrument, InnovFinTT,<sup>10</sup> to assist Universities and Public Research Organizations to commercialize their research results. It has also incorporated the idea of mission-oriented programs in its proposal for the next multi-annual program of funding of research and innovation<sup>11</sup>. The latter provides for the creation of a European Innovation Council, which would provide proof of concept funding to de-risk projects. At the time of writing, the Commission is carrying out a review of the horizontal antitrust guidelines,<sup>12</sup> which address the formation of patent pools in the context of standardization.

## IV. SELECTED RESEARCH FINDINGS

As, other than business review letters from agencies and reference to pools in determining FRAND rates, there have been few cases on the legality of the formation of or operation of patent pools, the remainder of the paper addresses some recent academic research.

Baron & Delcamp<sup>13</sup> examined the development of pools over time. They examined the rate of inclusion of patents in pools and the type of patents that are added to pools at different stages of the lifetime of the pool. Their specific findings were that pools grow considerably after the launch of the pool and that while in addition to the pool founders other companies join pools, the patents that are added by pool founders after the launch of the pool are of an incremental nature and comprise rather narrower patent claims.

This has a number of implications of both a commercial and a policy consequence. Firstly, as pool founders continue to add patents to the pool at the same time as others join pools and contribute their patents, they, the founders, tend to retain a majority share of the number of the patents in the pool.

9 [http://documents.epo.org/projects/babylon/eponot.nsf/0/ddf1c588a052305dc1257e27002e70e0/\\$FILE/esab\\_patent\\_aggregation\\_workshop\\_report\\_en.pdf](http://documents.epo.org/projects/babylon/eponot.nsf/0/ddf1c588a052305dc1257e27002e70e0/$FILE/esab_patent_aggregation_workshop_report_en.pdf).

10 [https://www.eif.org/news\\_centre/publications/innovfin-technology-transfer-leaflet.htm](https://www.eif.org/news_centre/publications/innovfin-technology-transfer-leaflet.htm).

11 [https://ec.europa.eu/info/horizon-europe-next-research-and-innovation-framework-programme\\_en](https://ec.europa.eu/info/horizon-europe-next-research-and-innovation-framework-programme_en).

12 [https://ec.europa.eu/competition/consultations/2019\\_hbers/index\\_en.html](https://ec.europa.eu/competition/consultations/2019_hbers/index_en.html).

13 Justus Baron & Henry Delcamp, “The strategies of patent introduction into patent pools,” *Economic of Innovation and New Technology* Vol. 24 2015 776-800.

As the nature of the additional patents is, as indicated, incremental, this might be seen as a policy concern where allocation of royalties to pool members is based simply on the numbers of patents each patent holder has in the pool. However, this need not be of concern if the patents are valid.

Merges & Mattioli<sup>14</sup> measured the costs and benefits of patent pools by documenting the costs of assembling and running a patent pool and comparing this with the counterfactual by estimating the transaction costs if no pool had been formed. The basic finding is that many pools save hundreds of millions of dollars in transaction costs. They also estimate welfare losses that result from the inclusion of substitute technologies in pools and grant back provisions.

While the latter losses could offset the former savings, it is suggested that antitrust rules that limit the degree to which substitute patents are included in pools and outlaw compulsory grant-backs should ensure the net benefit to competition of the formation of a pool.

Choi & Gerlach<sup>15</sup> analyzed patent pools and their effects on litigation incentives, overall royalty rates, and social welfare in the context that patent rights are probabilistic and patents can be rendered invalid. They suggest that patent pools of complementary patents could be used to discourage infringement by depriving licensees of the ability to selectively challenge patents and make them engage in an all or nothing negotiation. They then suggest that if patents are sufficiently weak, pools with complementary patents reduce social welfare by charging higher licensing fees and thus chill subsequent innovation incentives.

This could be a concern but for the fact that licensees are not forced to license from a pool but can individually negotiate licenses with the individual patent holders. As the probabilistic nature of patents is known, this consideration influences the valuation of the patents in negotiation with the probabilistic nature leading to a certain discount. This is to allow for the possibility that, if subsequently challenged, some of the patents could be found invalid, non-essential to the standard, and/or possibly not infringed. Moreover, as has been seen in litigation<sup>16</sup> which involved the use of patent pools to determine FRAND rates, the royalty rates for patents in pools are generally lower rather than higher. Added to this is the fact that for inclusion of a patent in a pool, as opposed to a portfolio, a due diligence exercise is carried out to ensure inclusion of only essential and valid patents.

Using an economic model, Quint<sup>17</sup> shows that pools of essential patents are always welfare increasing while pools that include nonessential patents can be welfare reducing and the latter applies even to pools limited to complementary patents. He acknowledges that the model does not address uncertainty in the scope and enforceability of patents or non-essential patents that are effectively essential.

This suggests that, in line with antitrust policy, pools of essential patents should be allowed and encouraged to be as inclusive as possible, while pools including complementary non-essential patents should be considered more cautiously.

In a theoretical modelling exercise, Reisinger and Tarantino<sup>18</sup> analyzed pools licensing to competing manufacturers and found that the impact of pools depends on the industry structure. Whilst they are pro-competitive if no manufacturer is integrated with a licensor, the presence of vertically integrated manufacturers triggers a trade-off between horizontal and vertical price co-ordination. They find that pools are anticompetitive if the share of integrated firms is large and propose an approach to screen anticompetitive pools.

The concern is that pool members who are vertically integrated face lower *net* licensing costs, their solution is to require the independent licensing of each firm's portfolio and require a pool to maximize its royalties.

This theoretical model, however, is at variance with reality in that patent pools rarely include large vertically integrated firms. It is suggested that the implied discrimination against firms that are not vertically integrated could be addressed by a clear allocation of one-way royalties per portfolio as well as the calculation of net royalties.

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14 Mattioli, Michael & Merges, Robert P. "Measuring the costs and benefits of patent pools," <http://www.repository.law.indiana.edu/facpub/2643>, Ohio State Law Journal Volume 2017 78 (2) 281-347.

15 Jay Pil Choi & Heiko Gerlach, "Patent pools, litigation and innovation," The RAND Journal of Economics, Volume 46(3) 2015.

16 *Microsoft v. Motorola* <https://www.essentialpatentblog.com/2015/07/ninth-circuit-affirms-judge-robarts-rand-decision-microsoft-v-motorola/>.

17 Daniel Quint, "Pooling with Essential and Non-essential patent," American Economic Journal: Microeconomics 2014, 6(1): 23-57.

18 Markus Reisinger & Emanuele Tarantino, "Patent pools, vertical integration and downstream competition," The RAND Journal of Economics, Volume 50 (1) 2019, <https://doi.org/10.1111/1756-2171.12266>.

Mattioli<sup>19</sup> addresses the issue of pool outsiders, i.e. those patent holders who decline to join pools and how these “pool outsiders” impact the bargaining taking place in the pool. Using financial and industry data, he shows that counterintuitively, licensees are sometimes better off where cooperation between licensors is partial rather than complete, and that slightly fragmented property markets may be preferable to grand coalitions.

Theory had previously argued that by remaining outside pools, outsiders undermine the transaction cost savings. Mattioli’s finding is that the influence of outsiders is not what theory predicts. Rather than outsiders’ royalty demands influencing the pool rate, he finds the reverse applies and that pool rates serve as benchmarks in settling bilateral disputes. The implication of this finding is that some fragmentation of the licensing offer is beneficial, and in the author’s view preferable to the alternative of compulsory pool formation.

Baron & Pohlmann<sup>20</sup> investigated the effect of patent pools and innovation. Specifically, they found that after the announcement of the formation of a pool, there is an increase in patenting activity primarily attributed to future members of the pool. However, there is no impact of pool formation announcements on the citation-weighted filings.

These findings suggest that pool creation takes place after significant innovation has already occurred and hence the substantial effect of pools on innovation occurs prior to the creation of the pool.

Whereas these papers represent just a sample of research in this area, one could draw a tentative conclusion that patent pools still represent more of a solution than a problem in facilitating the licensing of patents and SEPs and that any negative impacts that emerge on a case-by-case basis could be addressed by existing antitrust rules.

Nevertheless, the question remains what if anything could and then should be done to incentivize the formation of pools that comprise the majority of SEPs and the main portfolio holders, notwithstanding their different interests and business models. This raises the question of how to motivate patentees to join pools that holders of major portfolios presently elect to stay outside of.

One mooted solution is the formation of mandatory pools that would represent a form of compulsory licensing. This would represent a coercion rather than an incentive and would raise questions on how the aggregate value of the pool would be determined and by whom, and the risk that such a provision could serve to dis-incentivize participation in open standards development, and chill incentives to invest in the risky R&D upstream.

The overall challenge remains that of ensuring a balanced framework that addresses the needs of both patentees and licensees in a context of open innovation, specialization and vertical dis-integration.

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19 Michael Mattioli, “Patent pool outsiders,” Berkeley Technology Law Journal Volume 33225-286.

20 Justus Baron & Tim Pohlmann, “The Effect of patent pools on patenting – evidence from contemporary technology standards,” [http://www.law.northwestern.edu/research-faculty/clbe/innovationeconomics/documents/Baron\\_Pohlmann\\_effect\\_of\\_patents.pdf](http://www.law.northwestern.edu/research-faculty/clbe/innovationeconomics/documents/Baron_Pohlmann_effect_of_patents.pdf).



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