

Licensing Negotiation Groups For SEPs: Collusive Technology Buyers Arrangements? Their Pitfalls And Reasonable Alternatives

By Igor Nikolic

Abstract

One of the experts within the European Commission's Standard Essential Patents (SEP) Expert Group proposed the formation of licensing negotiations groups (LNGs) by implementers to collectively negotiate with SEP owners and patent pools. Accordingly, LNGs could be used for a more efficient SEP licensing process, particularly relevant in the Internet of Things (IoT) with increasingly new stakeholders entering the market. This article examines how LNGs could work in practice and raises concerns about LNGs turning into hidden buyers' cartels creating an industry wide collective holdout. As a less restrictive alternative, this article explains how existing patent pools and other similar licensing platforms that aggregate complementary SEPs and provide a one-stop shop for licensing already enable the efficiency and transaction costs savings in the IoT with no harmful anti-competitive effects. By gathering inputs from individual implementers before the formation of royalty programs, some licensing platforms can ensure that implementers are consulted and participate in royalty formulations without the risk of collusive outcomes.

1. Introduction—SEP Licensing Challenges in the IoT

The Internet of Things brings connectivity between different objects allowing them to communicate with each other and the environment.¹ We enjoy cars,² domestic appliances, buildings, healthcare devices,³ manufacturing machines and, in the near future, cities, all connected to the internet with the ability to interact with each other and with the users. Devices and

services are getting “smart.”⁴ Already around 10 billion devices are estimated to have connectivity, which is expected to rise to as much as 25 billion by 2025.⁵ The economic impact of the IoT will be enormous, with an estimated growth of as much as \$11.1 trillion per year in 2025,⁶ and \$12.3 trillion by 2035.⁷

Connectivity is largely expected to be facilitated by cellular communication standards, in particular by 5G. The 5G standard will be up to 100 times faster than the existing 4G/LTE,⁸ with end-to-end latency going down to one millisecond, which may support a broad variety of applications, such as remote surgery or the emergence of self-driving cars that depend on uninterrupted and immediate transmission of data. FiveG and other standards that enable interoperability are estimated to represent 40 percent of the potential value of the IoT.⁹ Moreover, the IoT will also use many different standards related to, for example, quality and security, co-operation between IoT devices and cloud-based services and standards within IoT devices.¹⁰

The IoT, however, creates new challenges for licensing standard-essential patents (SEPs),¹¹ *i.e.*, patented inventions that are necessary to comply with a standard implemented in a product or service. The count-

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1. Commission, “Advancing the Internet of Things in Europe,” SWD(2016) 110 final.

2. S. Arya, “The Value of Standardized Technology to Connected Cars,” (2020) 69(4) *GRURInt.*, 365–379.

3. On the Internet of Bodies see E Stefanaki, “The Internet of Bodies could save many lives but risks failing without standards,” (21 April 2021) *IAM*, available at <https://www.iam-media.com/frandseps/the-internet-of-bodies-could-save-many-lives-risks-failing-without-standards>.

4. See European Commission, “Smart cities. Cities using technological solutions to improve the management and efficiency of the urban environment.” https://ec.europa.eu/info/eu-regional-and-urban-development/topics/cities-and-urban-development/city-initiatives/smart-cities_en.

5. Ericsson Mobility Report (June 2020) 23.

6. McKinsey Global Institute, “The Internet of Things: Mapping the Value Beyond the Hype,” (June 2015).

7. IHS Economics & IHS Technology, “The 5G Economy: How 5G Technology Will Contribute to the Global Economy,” January 2017

8. 5GPPP, “5G Innovations for New Business Opportunities,” (March 2017).

9. McKinsey Global Institute, “The Internet of Things: Mapping the Value Beyond the Hype,” (June 2015).

10. Group of Experts on Licensing and Valuation of Standard Essential Patents, “Contribution to the Debate on SEPs,” (2021) (SEP Expert Group Report) 37-39.

11. H. Tsilikas and C. Tapia, “The Internet of Things: Big data, new patent licensing models and the role of standardization,” (Jan-Feb 2018) *The Patent Lawyer*.

less new companies and industries using connected objects would now need to take a licence. However, some may have little experience with SEPs or IP licensing more generally, or may be SMEs that do not have the budget for expensive patent negotiations and/or technical evaluations. The current SEP licensing landscape is seen by some as inadequate for the new environment. The key perceived problems are the unclear SEP landscape, the difficulties in the identification of the stakeholders owning SEPs, the unknown aggregate royalty rate of the standard, and the share corresponding to each SEP owner.¹²

The market is currently responding to these challenges in a number of ways. The ETSI IPR database, for example, allows implementers to identify potential SEP owners and disclosed patents and patent applications that may be essential to the standard, which increases the transparency of the market.¹³ SEP users can also access the patented technology right away without first entering into a licence agreement with the SEP owner. In Europe, an injunction will be granted only if the SEP user ignores the guidelines established by the Court of Justice of the European Union (CJEU) in *Huawei v. ZTE*, for instance, if the SEP user does not express its willingness “without delay” to conclude a FRAND licence or does not negotiate the license in good faith after being approached and notified of the infringement by the SEP holder.¹⁴ Moreover, if companies do not have the expertise and experience in SEP licensing, they can hire external experts or consult some freely available sources, like a database on national courts cases interpreting the *Huawei v. ZTE* ruling.¹⁵ Moreover, implementers can obtain the information on SEP royalties by looking at comparable

agreements disclosed in court cases, independent reports, or announcements by SEP owners on royalty rates.¹⁶ In order to understand the relevance and value of the SEP portfolios, SEP users can analyze technical contributions to the standard and engage in technical discussions regarding representative claim charts presented by SEP holders.¹⁷ Admittedly, however, there is currently no authoritative mechanism to know the number and value of essential patents.¹⁸ Parties may obtain or commission commercial reports on essentiality, but these are typically very expensive and may not be reliable. To be reliable, the essentiality study should appoint qualified experts who need to spend enough time examining the patents and must adopt transparent and reliable methodologies for assessment.¹⁹ Most commercially available studies do not follow these minimum requirements as the information on the qualification of assessors and the methodology used are often not made available and the time spent on analysis is frequently not adequate.²⁰

Implementers can also benefit from available patent pools and licensing platforms, which represent a “one-stop shop” for obtaining licenses from multiple SEP owners.²¹ Patent pools and platforms are thus an important market mechanism for lowering the transaction costs, as implementers are concluding only one license for many SEP owners’ whole SEP portfolio, and the royalties are typically cheaper than when licensing bilaterally. Pools and platforms are also required to submit their patents to an independent third-party

12. Commission, “Setting Out the EU Approach to Standard Essential Patents,” (COM)2017 712 final; The patent holder must, in principle, “be given a share” in the “economic benefits of the technology to the saleable end product at the final stage of the value chain,” *Nokia v. Daimler*, District Court Mannheim 18 August 2020 Case No. 2 O 34/19, para. 171.

13. <https://ipr.etsi.org/>.

14. C-170/13 *Huawei v ZTE*, ECLI:EU:C:2015:477. See also 4iP Council “National Court Guidance” <https://caselaw.4ipcouncil.com/guidance-national-courts>.

15. <https://caselaw.4ipcouncil.com/>.

16. E. Stasik, D. Cohen, “Royalty Rates and Licensing Strategies for Essential Patents on 5G Telecommunication Standards: What to Expect” (2020) *les Nouvelles* 176f.

17. Claim charts map claim(s) with the standard to evidence that a standard compliant product necessarily implements the invention. While the use of a claim chart is not mandatory, it is considered commercial practice and is sufficient to fulfil the infringement notification obligation. *NTT DoCoMo v HTC* District Court Mannheim 29 January 2016—Case No. 7 O 66/15; District Court Mannheim 4 March 2016—Case No. 7 O 24/14.

18. For various reasons a patent disclosed as (potentially) essential may not, in fact, be essential for a standard, see R Stitzing, *et al.* “Over-Declaration of Standard Essential Patents and Determinants of Essentiality,” (2018) available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2951617; R. Bekkers, *et al.* “Pilot Study for Essentiality Assessment of Standard Essential Patents,” (2020) 29-39.

19. D. Cooper, “Evaluating Standard Essential Patents in Mobile Cellular,” (December 2019) *les Nouvelles* 274 (finding that studies analyzing essentiality in one hour or less with no claim charts are highly unreliable and appear to materially overestimate the number of essential patents); R. Bekkers, *et al.* “Pilot Study for Essentiality Assessment of Standard Essential Patents,” (2020) 29-31, 15 (full essentiality verification is also very costly, estimated up to €10,000 per patent).

20. H. A. Contreras Alvarez, “Estimating the Value of Patents: Reliability of Automated Methods,” (September 2020) *les Nouvelles*.

21. For definition and overview see 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 (Technology Transfer Guidelines) 244; U.S. Department of Justice and the Federal Trade Commission, “Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition,” (2007) 64. J. Brito, H. A. Contreras Alvarez, “Patent Pools: A Practical Perspective,” (2021), *les Nouvelles*, Volume LVI, Number 4, pp 341 - 349.

test of essentiality, ensuring that they include only “approved” essential patents in a pool.²² Avanci is an example of a licensing platform for the IoT which offers a wide portfolio of cellular SEPs for connected cars, and plans on adding licensing programs for other IoT devices in the future.

Nevertheless, concerns of the European Commission regarding SEP licensing in the IoT remain, and in 2018 it established an Expert Group to assist the Commission with policy measures to ensure a balanced framework for smooth, efficient, and effective SEP licensing. In 2021 the SEP Expert Group published its report with a total of 79 proposals discussing different ways SEP licensing in the IoT could possibly be improved.²³ However, concerns were raised surrounding the working of the SEP Expert Group and its proposals. The group could not reach a consensus on any issue and, as a result, the report represents a collection of a large number of proposals, each with a different degree of support among its members. The voting system on different proposals did not take the abstentions into account either, so it is impossible to know how many members of the group supported each proposal.²⁴ Finally, criticism was voiced that individual proposals and policy recommendations are often not based on empirical evidence or the analysis of best practices in the existing licensing markets but are often made on questionable assumptions.²⁵ This led one member of the group to dissent from the whole report.²⁶

One of the novel proposals in the report is to introduce collective licensing negotiations groups (LNGs) that would negotiate licenses with SEP owners on behalf of implementers.²⁷ Accordingly, groups of implementers collectively negotiating with SEP owners (individually or as a group, via an SEP pool) may lower transaction costs and aid implementers to negotiate “on a more equal footing.”²⁸ A related proposal was already suggested in a study commissioned by the European Parliament.²⁹ According to the study, standards development organizations (SDOs) should be “allowed

to collectively negotiate royalty rates on behalf of standard implementers (...) taking into account competition-related concerns.”³⁰

This article explores further the viability of using LNGs in SEP licensing negotiations in the IoT and warns about hidden dangers that may arise with their use. Namely, LNGs raise serious concerns about being used as a cover for a buyers’ cartel to further depress SEP royalties and as a venue for a collective industry holdout to delay or avoid the conclusion of licensing agreements. Instead, the article will present some less problematic alternatives to gain the input from implementers on the pricing of SEP royalties for IoT without raising negative competition concerns and will also suggest ways for the associations of implementers to be used to facilitate successful licensing.

2. The LNG Proposal

The main argument used in favour of introducing LNGs is their potential to lower transaction costs. Nowadays individual SEP owners and patent pools need to negotiate and conclude licences individually with a large number of implementers from different IoT industries, leading to higher transaction costs.³¹ However, LNGs’ proponents maintain, these costs may be reduced if a group of implementers could collectively negotiate with SEP owners. Thus, by negotiating and concluding licences directly with LNGs the SEP owner would avoid the costs of engaging in many individual bilateral negotiations. Additionally, it is argued that the combined legal, licensing and technical expertise of the LNGs’ members would lead to a more balanced negotiation, in particular beneficial to SMEs.³²

Following the proposal, members of an LNG would first have to agree with each other at least about the licensed product, the licensing level and the maximum acceptable royalty.³³ Then, LNG members should, on the one hand, authorize the LNG to negotiate a license with SEP owners in accordance with the pre-agreed conditions, and on the other hand, commit “in a certain/high degree to accepting the negotiated outcome

22. This is a requirement from competition authorities in order for pools not to raise anti-competitive concerns, see Commission, Technology Transfer Guidelines *para* 261; Department of Justice and the Federal Trade Commission, “Antitrust Guidelines for the Licensing of Intellectual Property,” (2017) 30.

23. In this regard it should be noted that “No single proposal will achieve the desired objective but a combination of different proposals could offer possible improvements to the system.” See SEP Expert Group Report, 9.

24. SEP Expert Group Report, 18.

25. *Ibid*, 187.

26. *Ibid*, Annex 2, Dissenting Opinion by Monica Magnusson.

27. *Ibid*, 168-171.

28. *Ibid*, 168, 170.

29. L. McDonagh, E. Bonadio, “Standard Essential Patents and the Internet of Things,” (2019) 30.

30. *Ibid*, 30. On the topic see, R. Li and H. A. Contreras Alvarez, “Are Collecting Agencies a Model That Fits to SEP Licensing?” (2021) *Journal of Intellectual Property Law & Practice* forthcoming.

31. SEP Expert Group Report, 168.

32. SEP Expert Group Report, 170. A similar argument was raised in L. McDonagh, E. Bonadio, “Standard Essential Patents and the Internet of Things,” (2019) 30, when proposing this kind of implementer pool to counterbalance to the “strong bargaining power” held by SEP owners and support SMEs that otherwise would not have the resources and experience to negotiate individually.

33. SEP Expert Group Report, 169.

between the LNG and the SEP owners and sign the license agreement without delay.”³⁴ However, if the members do not accept the outcome of the deal negotiated by the LNG, implementers should “without delay” enter into subsequent bilateral negotiations with SEP owners.

3. The Risks of the LNG Proposal

The proposal for implementers coming together in LNGs and negotiating royalties with SEP owners raises serious competition and practical concerns. Firstly, there is a danger of LNGs becoming a façade for buyers’ cartels that would depreciate SEP royalties. Secondly, LNGs could facilitate a venue for implementers to collectively hold out.³⁵ Each argument will be discussed in the following.

The idea that implementers should negotiate royalties together with SEP owners, ideally before a standard is set, is not new. In fact, it has been around for years.³⁶ Back in 2007 the U.S. antitrust agencies—the Department of Justice and the Federal Trade Commission—discussed the application of *ex ante* licensing negotiations in the standardisation context. While they stated that *ex ante* licensing negotiations are not *per se* illegal under antitrust laws and would be examined under the rule of reason, they warned that any activity that would turn licensing discussions into a sham to cover cartel-like activity would be condemned as *per se* violations of antitrust law.³⁷ Moreover, agencies noted that joint *ex ante* licensing negotiation may be unreasonable if all potential licensees refuse to license except on agreed-upon licensing terms.³⁸ Given the serious

competition risks, as well as practical difficulties of engaging in insensitive commercial discussions while engineers are still working on developing a standard, joint licensing negotiations have not been endorsed by SDOs. Despite these relevant concerns, the idea of joint negotiations between implementers and SEP owners has been encouraged by a few commentators,³⁹ and it reappeared in the reports of the European Parliament and Commission’s SEP Expert Group.

As currently proposed, LNGs constitute a serious danger of implementers acting as a disguised buyers’ cartel. As discussed, the proposal of the Report is for the LNG members to agree, before the start of negotiations, on the licensed product, the level in the value chain where to license and the maximum amount of acceptable royalty. In order to reach an agreement on these points, and especially on the royalty level, implementers would have to exchange sensitive commercial information with each other, such as the revenues following the incorporation of connectivity in the products, costs, actual and forecast sales and price projections. Such exchanges between competitors are clear violations of competition laws. Moreover, from a practical side, it is plausible to envisage that the maximum acceptable royalty for LNG members could be lower than the minimum acceptable royalty for SEP owners. If such proposal is to be adopted, there would be nothing left to negotiate with SEP owners who would be faced with a take-it-or-leave-it offer. Even if there were room for negotiation on royalty rates, nothing would prevent LNGs from insisting on the lowest amount of royalties possible, raising questions about the appropriate returns to innovation and incentives to innovate.

Indeed, economists have found that joint royalty negotiations between SEP owners and implementers may result in sub-optimal outcomes.⁴⁰ A large group of implementers negotiating licenserates with SEP holders has an incentive to collectively exert anti-competitive pressure to depress royalties below a reasonable level and refuse licensing even at most reasonable rates unless the SEP owner agrees to their proposals.⁴¹ Gilbert, for example, warns that “*ex-ante* joint negotiations are

34. *Ibid.*

35. The dangers were recognised by the SEP Expert Group but have not been further elaborated, see SEP Expert Group Report 171.

36. See U.S. Department of Justice and the Federal Trade Commission, *Antitrust Enforcement of Intellectual Property Rights: Promoting Innovation and Competition* (2007) (U.S. DOJ and FTC: *Promoting Innovation and Competition*) 49-56; the idea has also been examined in the literature see R. Skitol, “Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard Setting,” (2005) 72 *Antitrust Law Journal* 727; M. Lemley, C. Shapiro, “Patent Holdup and Royalty Stacking,” (2007) 85 *Texas Law Review* 1991, 2042-2043; M. Lemley “Ten Things to Do About Patent Holdup,” (2007) 48 *Boston College Law Review* 149, 159-161; J. Farrell, J. Hayes, C. Shapiro, T. Sullivan, “Standard Setting, Patents and Hold-up,” (2007) 74 *Antitrust Law Journal* 60, 654-655; and recently J. Contreras, “Aggregated Royalties for Top-Down FRAND Determination: Revisiting ‘Joint Negotiation’,” (2017) 62 *Antitrust Bulletin* 690-709.

37. U.S. DOJ and FTC: *Promoting Innovation and Competition*, 54-55.

38. *Ibid.*, 53.

39. J. Contreras, “Aggregated Royalties for Top-Down FRAND Determination: Revisiting ‘Joint Negotiation’,” (2017) 62 *Antitrust Bulletin* 690; M. Schneider, “SEP Licensing for the Internet of Things—Challenges for Patent Owners and Implementers,” (March 2020) *CPI Antitrust Chronicle* 2, 4.

40. See V. Torti, “Intellectual Property Rights and Competition in Standard Setting: Objectives and Tensions,” (2016 *Routledge*) 99-105 (discussing the shortcomings of joint *ex ante* negotiations between patent holders and implementers).

41. G. Sidak, “Patent Holdup and Oligopsonistic Collusion in Standard-Setting Organizations,” (2009) 5 *Journal of Competition Law & Economics* 123.

likely to result in royalties per firm that are lower than the royalties that most, if not all, licensees would pay with bilateral bargaining.⁴² He suggests that if *ex post* holdup is unlikely, and with the *Huawei v. ZTE* framework in the EU, an SEP holder cannot obtain an injunction unless it submits a FRAND licensing offer preventing any possibility of holdup, then “coordinated conduct to establish licensing terms ... has little benefit and may distort incentives for innovation by shifting the terms of patent licenses to favor technology adopters.”⁴³ Layne-Farrar, Llobet and Padilla also show how with joint *ex ante* negotiations the patent holder would generally be under-rewarded because, facing full buyer coordination, patent owners would have no viable outside option if negotiations fail.⁴⁴ In the case of LNGs, while SEP owners could try to negotiate with implementers individually if negotiations with the LNG fail, there would be little incentive for implementers to depart from the commonly adopted licensing position of the LNG. Contreras, however, argues in favor of a joint negotiation and believes that SEP holders would have an option to defect from SDOs if implementers exert too much downward pressure on royalties.⁴⁵ However, this seems to be a naive approach, as the investment in research and development by SEP holders starts many years before the standard is approved and implemented. For example, investments in the development of the next generation of cellular standard begins 10 years before the standard is released. The SEP owner(s) thus relies on the reward for such R&D efforts via a FRAND compensation. Moreover, forcing technology developers to leave SDOs and establish proprietary solutions is not a socially desirable outcome, and does not represent a credible outside option to the SEP owner if all major implementers are coordinated within an LNG.⁴⁶ Recognizing the danger to innovation incentives, the report of Regibeau, De Coninck and Zenger prepared for the European Commission in 2016, discussed but rejected joint negoti-

42. R. Gilbert, “Deal or No Deal? Licensing Negotiations in Standard Setting Organizations,” (2011) 77 *Antitrust Law Journal* 855, 866-68.

43. *Ibid*, 858.

44. A. Layne-Farrar, Gerard Llobet, J. Padilla, “Preventing Patent Hold Up: An Economic Assessment of Ex Ante Licensing Negotiations in Standard Setting,” (2009) 37 *AIPLA Quarterly Journal* 445, 461.

45. J. Contreras, “Aggregated Royalties for Top-Down FRAND Determination: Revisiting ‘Joint Negotiation’,” (2017) 62 *Antitrust Bulletin* 707.

46. See benefits of standards at European Commission, Benefits of standards: European Commission, Internal Market, Industry, Entrepreneurship and SMEs, Benefits of standards, https://ec.europa.eu/growth/single-market/european-standards/policy/benefits_en.

ations between implementers and SEP owners and, instead, suggested that only SEP owners should agree on the aggregate royalty rate for a standard.⁴⁷

Another practical concern is that LNG members would be in a conflict of interests as implementers would be simultaneously using the standardized technology (2G to 5G) and negotiating its price. The main incentive for implementers would then be to cut their licensing costs as much as possible rather than to value the technology appropriately. As a matter of principle, permitting companies that have not developed and are already using the technology to decide its price would effectively resemble an expropriation of technology.⁴⁸

The European Commission already has a track record of sanctioning buyers’ cartels. The Commission has, for example, fined tobacco processors for colluding on process and other trading conditions that they would offer to tobacco growers.⁴⁹ Recently, it uncovered and fined a cartel of ethylene purchasers who colluded to buy ethylene at the lowest possible price.⁵⁰ The Commission found that members of the cartel exchanged sensitive and confidential purchase pricing information and coordinated the price negotiations strategy against ethylene sellers to influence the price to their advantage. The Commission considers buyers’ cartels just as harmful as cartels on the sellers’ side, since they replace uncertainty with coordination, preventing companies from competing on the merits and competitive process for inputs.⁵¹ Buyers’ cartels are prohibited even though companies conspire to pay lower prices that might theoretically be passed on to consumers in the form of cheaper end products. However, the danger in the standardization context is that anti-competitive low prices may seriously damage dynamic efficiency and incentives to invest in the development of new technologies.

The negative sides of implementers’ buyers’ cartels can also be directly observed in SEP cases in India. As explained by the Court, back in 2016 the Indian

47. P. Régibeau, R. De Coninck, H. Zenger, “Transparency, Predictability and Efficiency of SSO-based Standardisation and SEP Licensing: A Report for the European Commission,” (2016) 44-45.

48. I. Nikolic, N. Galli, “SEP Expert Group Report: A Look into the IoT Future of SEP Licensing,” (May 2021) *CPI Columns* 1, 6.

49. See Case T-24/05 *Alliance One International v. Commission* EU:T:2010:453; Case T-29/05 *Deltafina v Commission* EU:T:2010:355; Case T-37/05 *World Wide Tobacco Espana v. Commission* EU:T:2011:76.

50. Commission, “Antitrust: Commission Fines Ethylene Purchases €260 Million in Cartel Settlement,” [Press Release] (14 July 2020) IP/20/1348.

51. *Ibid*.

Cellular Association (ICA) reached out to domestic manufacturers advising them to take a coordinated strategy to respond to the payment of royalties to patent holders, as well as to coordinate an approach to patent litigation by raising similar issues of patent validity, non-essentiality and infringement.⁵² This resulted in ICA members producing a joint offer to license SEPs for a lower royalty.⁵³ Thus, this case clearly manifested that the cartelization by implementers is a real threat.

The second related problem is that LNG may be used as another venue for collective holdout, delaying the conclusion of licenses unless all their demands are met. Studies and experience from litigated cases where implementers intentionally delayed negotiations and refused to enter into a license demonstrate that holdout exists.⁵⁴ Therefore, proposals for IoT licensing should be aimed at reducing the incentives for holdout and facilitate timely and efficient licensing. The LNG proposal has the potential to achieve the opposite.

The LNG proposal opens serious holdout concerns. As mentioned above, the report envisages a two-stage negotiation process: negotiations would first proceed with the LNG and, if the member does not accept the agreed terms, the SEP owner (individually or via SEP

pools) would negotiate bilaterally with implementers. The business interest of implementers would incentivize them to claim to be “willing” to conclude a FRAND license during both the LNG and individual negotiations in order to raise a FRAND defense and prevent an injunction from being granted or executed. Thus, it is reasonable to assume that implementers would use the additional venue for negotiations within the LNG, even if they genuinely do not want to take a license, in order to be shielded from litigation and delay taking a license, forcing SEP holders to agree on terms below FRAND. Since injunctions would *de facto* become ineffective, this would further negatively impact the incentives of implementers to reach an agreement on FRAND royalties. Furthermore, even in bilateral negotiations, implementers would have a reason to insist on favorable licensing terms coordinated within LNG in order not to pay more than their competitors.

Consequently, as currently envisaged, the LNG proposal would likely lead to anti-competitive buyers’ collusion with harmful effects on innovation incentives and would further complicate and delay licensing. Instead, there are other more reasonable methods to involve implementers in SEP licensing in the IoT, which will be discussed below.

4. Reasonable Alternatives

Alternative mechanisms to the LNG proposal could be used to gather the necessary input from implementers on the pricing of FRAND royalties without resulting in harmful anti-competitive collusive effects and holdout risks. Avanci offers a good example of how an independent third party can collect information individually from implementers about the value of the technology and the acceptable level of royalty before formulating its licensing program. Indeed, Avanci did not announce its pricing until it had engaged in discussions with several automotive companies and had arrived at a mutually acceptable pricing arrangement with its first licensee, BMW. And as a platform, Avanci reduces transaction costs of licensing for both implementers and SEP owners, and increases the transparency and certainty on the market as implementers know their licensing costs in advance. By gaining input from each innovator and implementer separately, Avanci can arrive at a mutually acceptable pricing proposal for an IoT industry as a whole without violating competition law.

4.1 Individual Negotiations with IoT Implementers by Pool Administrator—the Case of Avanci

Avanci is an independent marketplace that aggregates 2G, 3G and 4G SEPs for licensing to connected car manufacturers. In the future it will also offer 5G

52. R. Raj, “Local Handset Makers to Close Ranks in Patent Battle,” (7 March 2016) *Financial Express*, <https://www.financialexpress.com/economy/local-handset-makers-to-close-ranks-in-patent-battle/220244/>.

53. See *Ericsson v LAVA*, I.A. Nos.5768/2015 & 16011/2015 in CS(OS) No 764/2015, High Court of Delhi (10th June 2016), para 53.

54. B. Heiden, N. Petit “Patent Trespass and the Royalty Gap: Exploring the Nature and Impact of Patent Holdout,” (2018) 34 *Santa Clara High Technology Journal* 179 (listing examples of holdout strategies and impact on innovation); and V. Angwenyi, “Hold-up, Hold-out and F/Rand: The Quest for Balance,” (2017) *GRUR Int.*, 105. In the recent judgment of the German Federal Court of Justice in *Sisvel v. Haier*, the Court held that the implementer must clearly and unequivocally declare his willingness to conclude a license on FRAND terms and must participate in negotiations in a target-oriented manner. According to the Court, the implementer failed to do so as it waited more than one year to respond to the first notification of infringement, insisted on taking a license only under the terms it proposed, and its whole negotiating conduct was not motivated by the genuine willingness to conclude a license but served to delay negotiations until the expiry of the patent in suit. See *Sisvel v. Haier*, KZR 36/17 Federal Court of Justice (05 May 2020) 83, 95, 98. In the UK’s *TQ Delta v. ZyXEL* case parties were in negotiations for six years and, once patents came close to expiring, the implementer refused to take a license on terms determined by the Court. *TQ Delta v. ZyXEL* [2019] EWHC 745 (Pat) 12 (“on the evidence before me, I accept that this is a case of ‘hold-out’ by ZyXEL”).

SEPs and expand licensing programs to smart meters and other IoT devices.⁵⁵ It was formed in 2016 and gathers an impressive number of licensors (42), including major SEP owners such as Ericsson, Nokia, and Qualcomm,⁵⁶ representing up to 75 percent of all 3G and 4G patents declared as potentially standard essential,⁵⁷ with a potentially even larger share given that new SEP owners are joining continuously. An advantage of such a large group of patents owned by a variety of SEP owners is having a one-stop shop for licensing, which reduces transaction costs both for implementers and SEP owners who can now transact with a single agreement. The fixed royalty also provides certainty on the aggregate price of the royalties.⁵⁸ Since it is assembling complementary patents Avanci does not raise anti-competitive concerns like LNGs, which combine the market power of horizontal competitors. It represents a more efficient way of licensing than bilateral negotiations with individual SEP owners.

The origins of Avanci can actually be traced to the needs of the car industry, which wanted to have a predictable and transparent SEP licensing framework for the increasing number of connected cars. Uwe Weisner, General Manager for IP at Volkswagen, declared that he was one of the fathers of Avanci in a webinar organised by the Commission on patent pool solutions for IoT.⁵⁹ After being approached by several SEP owners it became obvious to Volkswagen that it would prefer to have one centralized solution than a series of bilateral licensing negotiations.

Moreover, Avanci's \$15 per vehicle royalty for its 2G, 3G and 4G portfolio did not come unilaterally, but was a result of a lengthy information-gathering period followed by negotiations with car manufacturers. Representatives of Avanci negotiated individually with Volkswagen, BMW and other licensees for more than a year to arrive at a royalty that is mutually acceptable to car manufacturers and SEP owners alike. Therefore, the chosen royalty program for a connected car is the result of years of individual negotiations of Avanci as an independent operator with car manufacturers and SEP owners, where it had a mediatory role among all the interested parties.

55. Department of Justice, Letter from Makan Delrahim, Assistant Attorney General to Mark Hamer (28 July 2020) (Avanci Business Review Letter) 3.

56. <https://www.avanci.com/marketplace/>.57. R. Vary, M. Noble, "Avanci's Share of Mobile SEPs Far Higher Than Previously Reported," (10 August 2020) *IAM* <https://www.iam-media.com/frandseps/avanci-market-share-3g-and-4g>.

58. <https://www.avanci.com/marketplace/>.

59. <https://www.scribd.com/document/505606281/Uwe-Weisner-Transcript>.

The experience of Avanci individually approaching and working with implementers and SEP owners in structuring its royalty program in order to be widely accepted in the market is valuable. The individual negotiation approach by an independent administrator ensures that the views of implementers will be taken into account when developing a royalty program without, however, the risk of collusion between implementers. Moreover, as the incentive for an independent administrator is to reach a deal that is mutually acceptable both to SEP owners and implementers, it is expected that the administrator will work toward bringing all of the interested parties closer to a mutually acceptable outcome. The potential downside of individual negotiations by the administrator is the time needed to reach and consult with all interested implementers, especially in a highly fragmented industry.

4.2. Associations of Implementers as an Information Collecting Venue, with Proper Safeguards

For highly fragmented industries, a trade association of implementers could potentially be used as a source of input for the pool administrator or SEP owner, with proper safeguards in place. In order to determine FRAND terms and in particular the royalty, courts and regulators have looked to the value that the standardized patented technology brings to IoT end devices. Thus, a pool administrator or SEP owner would benefit from information on the value that IoT devices derive from using the technology. This information could include the revenues on a per-unit basis following the incorporation of connectivity in the end products, the number of end products already sold, actual and forecast sales, price projections or any other relevant information.⁶⁰ When SEP owners or pool administrators are unable to collect such information, they are often forced to rely on third-party market reports, and associations could facilitate such reports and provide the transparency needed for SEP owners and pool administrators to assess reasonable royalties. Thus, associations of implementers could play a valuable role of first collecting and then providing the relevant information needed to understand the market and the way the technology is used in IoT devices. However, associations must ensure that the information collected from implementers is obtained and used independently and anonymously, to avoid competition law violations. Therefore, safeguards need to be in place to prevent any possibility of collusion among implementers when providing market information. The implementer could

60. L. Herranz, C. Tapia, "Good and Bad Practices in FRAND Licence Negotiation," in Zeiler/Zojer (eds) *Resolving IP Disputes* (2018) 49 -68.

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then refer the SEP holder or pool administrator to the association's market information so that the SEP holder or pool administrator can consider the information when formulating its royalty rate.

The benefits of involving associations of implementers in this way is that the pool manager (or SEP holder) would have more information on the value that the technology brings to end users and IoT devices and a better understanding of the market, which helps in forming an adequate licensing program.⁶¹ Associations however need to ensure that the information is collected independently from its members and protect against possible collusive outcomes.

5. Conclusion

The proposed pool of implementers(LNGs) poses serious risks of collusion among implementers to depress SEP royalties below reasonable levels and repre-

sents an additional risk of collective industry holdout. Instead, there are other less harmful ways of involving implementers in consultations about the appropriate SEP royalty levels. This article explains with the example of Avanci how pool administrators can negotiate with implementers and innovators individually to obtain feedback to be used in the formation of a pool's royalty program. With proper safeguards, associations of implementers, as long as they only collect relevant information from implementers individually and anonymously, could be involved as an additional source of input for the valuation of standardized, patented technologies. In this way, implementers and their associations could be involved in the process of formation of SEP royalties for IoT devices without the negative risks of anti-competitive collusion and collective holdout. ■

Available at Social Science Research Network (SSRN): <https://ssrn.com/abstract=3946598>.

61. As the District Court of Mannheim, Germany, recognized, the use of the protected invention "creates the chance" to gain an "economic profit" with the *end product*, which is based on the invention. *Nokia v. Daimler*, District Court Mannheim, 18 August 2020—Case No. 2 O 34/19, *para.* 171.