

**Group of Experts on Licensing and  
Valuation of Standard Essential Patents**

**‘SEPs Expert Group’**

**(E03600)**

**Contribution to the Debate on SEPs**

**January 2021**

## **Disclaimer**

The contributions of the expert group to the SEP debate do not reflect the views of the European Commission (“Commission”). They are intended to advise the Commission and to stimulate discussion among all relevant stakeholders. The contributions of the expert group to the SEP debate do not constitute policy positions that are binding on either the EU Member States or the Commission. Possible policy follow-up will be based on considerations by the relevant bodies and institutions within their respective fields of competence.

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<sup>1</sup> Ms Courboulay and Ms Ghafele resigned as members of the group in 2020

## EXECUTIVE SUMMARY

### *Policy context*

In its Communication of 2017 entitled “Setting out the EU approach to Standard Essential Patents” the European Commission (“Commission”) presented its views on Standard Essential Patents (SEPs) with a holistic and balanced approach. Sound policy relating to the treatment of SEPs should, on the one hand, incentivise contribution of best technologies to global standardisation efforts, while on the other hand, foster smooth access to standardised technologies for implementers. This approach was supported by Council Conclusions 6681/18.<sup>2</sup>

The Communication announced that the Commission would monitor the SEP licensing markets with a particular focus on IoT technologies. In this context, it would also set up an expert group with the view to deepening expertise on industry licensing practices, sound IP valuation and FRAND determination.<sup>3</sup>

### *Expert group*

The expert group was set up by a Commission Decision in July 2018.<sup>4</sup> The main task of the expert group was to provide the Commission with economic, legal and technical expertise and to assist the Commission to inform policy measures that it may take to ensure a balanced framework for smooth, efficient and effective licensing of SEPs. The expert group is also a forum for exchange of experience and best practices in the field of licensing and valuation of SEPs. Pursuant to the Decision, the Commission may consult the group on any matter relating to licensing and valuation of SEPs. In October 2018, the Commission appointed the experts to advise the Commission.

At its first meeting in November 2018 the Chair asked the expert group to identify the challenges for SEP licensing with a particular focus on the IoT, taking into account the particular needs of small and medium-sized enterprises (“SMEs”), and launch a reflection on possible ways to address those challenges based on existing practise and beyond.

The members of the expert group (“members”) were, therefore, invited to provide a comprehensive overview of licensing and valuation practices and techniques that are currently applied and/or immediately available to address the identified challenges. They were also invited to generate ideas looking forward into the future framework for SEPs licensing and valuation. Overall, the members were asked to look for a balanced approach bolstering Europe’s industrial position in the development of new standardized technologies, such as 5G and 6G, as well as the roll-out of the IoT in its many varied applications across sectors.

On this basis, the members have formulated findings and proposals. They have analysed how SEP licensing is evolving as the use of SEP-based standards, notably in the IoT. They have identified key challenges, analysed current ways of dealing with them and made a number of proposals, called “structural reforms”, that may be considered to achieve the suggested way forward. These structural reform proposals reflect the personal views of a single or group of experts stemming

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<sup>2</sup> <http://data.consilium.europa.eu/doc/document/ST-6681-2018-INIT/en/pdf>

<sup>3</sup> COM(2017) 712 final, 29.11.2017, p. 8 and 13

<sup>4</sup> C(2018) 4161 final, 5.7.2018

from their specific knowledge and experience and would need to be backed by further analysis, if considered by the policy makers.

The expert group's findings and proposals should be read holistically. No single proposal will achieve the desired objective but a combination of different proposals could offer possible improvements to the system. Not all members that voted in favour of the adoption of this contribution agree with the identified problems and proposed solutions.

The main findings and proposals are as follows.

## **I. Evolution of FRAND Licensing in IoT Eco-systems**

The members have analysed how FRAND licensing for connectivity standards evolves in the IoT. The IoT denotes networks of connected and communicating ICT devices, known as “objects” or “things”. These objects or things are part of different application domains or “verticals” ranging from industrial applications in smart manufacturing and smart energy to consumer applications used in smart wearables and smart health. Many technical standards may have to be defined and used for these networks to succeed, as interoperability between the various objects and their software is a necessary condition for IoT applications to function.

The Standards in the IoT world include not only standards needed to connect “things” in the IoT but also (i) standards that ensure the quality and security of the IoT communication technology, (ii) standards needed to enable cooperation between different devices in the IoT and cloud-based services, (iii) standards defined for and applied within the “things” of the IoT and (iv) standards required for ensuring the security of the internal operation of the “things” in the IoT (cyber security standards).

Depending on their use case, IoT objects may rely more on certain standards than others. For instance, for stationary devices, like a connected refrigerator, mobile connectivity is not required but fixed-line communication means may suffice. However, mobile objects such as connected cars may want to rely on mobile radio communication technologies to achieve the necessary interoperability. The value of connectivity may also differ across IoT verticals. For example, the value of connectivity for connected cars, especially those that drive autonomously, will likely be different from its value for a connected refrigerators.

The members consider that licensors of SEPs and implementers of standards in the IoT are likely to face significant challenges in coming years. Some of these arise from the complexity of the IoT landscape due to, for instance, the presence of multiple verticals and different business models. The fact that more than one connectivity standard may be used within each IoT vertical is also a source of added complexity. Such complexity may create problems such as increasing transaction costs, reducing transparency, and increasing uncertainty for both licensors and implementers, among others.

The members generally believe that the choice of licensing level and the valuation of SEP portfolios across different IoT verticals will remain contentious issues. The use of platform, service, or data-driven business models will also create additional challenges in determining the licensing business model and the licence value that can be attributed to the use of the standardized technology in creating value from these businesses.

An important issue is whether fair, reasonable and non-discriminatory (“FRAND”) terms and conditions should be set uniformly across IoT verticals or should be allowed to differ among different IoT verticals. Because the products being sold in verticals will differ from one to the other, the incremental value of the standardised technologies covered by SEPs will likely be different across different IoT verticals. For some members this implies that valuations done for SEP licences for different products in various IoT verticals may differ. Yet, there is no consensus amongst members on this matter.

## **II. Analysis of key issues and proposals for improvement**

### **How to increase transparency about SEPs and SEPs licensing?**

Currently, there is a lack of transparency as to the ownership and number of true SEPs covering an adopted standard, which makes it difficult for implementers to determine what SEP licences they need for their standard-compliant products or services. Some standard development organization (“SDO”) declarations provide virtually no data with regard to specific SEPs. Other SDOs, such as the European Telecommunications Standards Institute (“ETSI”), require declarations that are more detailed but these are not regularly updated to reflect changes in the SEP landscape. Patent applications may be rejected, patents may be invalidated or expire or lose their essential character, as standards are approved, supplemented or amended, affecting the accuracy of already-filed declarations.

Members of the expert group generally agree that providing greater transparency on the SEP landscape could be beneficial to both SEP holders and implementers as it may facilitate smoother SEP licensing negotiations and reduce SEP litigation. With this in mind, some members make the following proposals to improve transparency with respect to SDO’s databases of declared SEPs, assessments of essentiality of purported SEPs and determinations of validity of confirmed SEPs.

*Declared SEP databases.* At this time, ETSI is an example of an SDO that has a comprehensive digitalised database with detailed information on declared SEPs for relevant standards. Some members propose that the EU incentivizes other SDOs that develop standards relevant to the EU, including non-European SDOs, to introduce SEP databases with specific SEP declarations, for example by requiring it for standards used in EU public procurement. To increase the relevancy of the declared SEP databases, some members also propose that SDOs create platforms where SDO members can submit applicable information regarding declared SEPs, such as results of third-party essentiality determinations and outcomes of opposition and litigation proceedings regarding essentiality or validity of declared SEPs.

*Essentiality.* With the objective of improving the transparency of essentiality determinations, the expert group makes the following proposals. First, to support implementers in assessing which licences they need for their products and support SEP holders in determining FRAND royalties for their portfolios, some members propose that SEP holders have independent bodies, like patent offices as the European Patent Office (the “EPO”) or alternatively supervised networks of certified law firms, check the essentiality of their declared SEPs shortly after approval of the standard. Second, to keep the cost of essentiality checks at a reasonable level preferably only one patent (in a major market country) per patent family should be checked combined with self-certification for other members of that family. The use of AI search tools may also be considered to support these essentiality checks as a measure to further reduce cost. Third, to inform the

relevant stakeholders, some members propose that confirmed SEPs, i.e. SEPs checked by independent evaluators and confirmed true SEPs, are recorded in SDO's databases together with (high level) claim charts. Fourth, fast and low cost procedures could be introduced allowing implementers to challenge the essentiality of confirmed SEPs. Finally, measures could be introduced to incentivize SEP holders to submit their declared SEPs for essentiality checking as quickly as possible after a standard has been approved, like SEP licensors to mandatory request accelerated examination in case no patent of a family has been granted in a major market country yet, or to demand royalties for a SEP patent family only from date of submission of a family member in a major market country for essentiality checking.

*Validity.* At least one member makes several proposals to increase the likelihood that SEPs can withstand validity tests in court, including requiring SDOs to: exchange standardization documentation with patent offices, encourage members to file oppositions against declared SEPs and encourage SEP holders to have in-depth prior searches done (e.g. by AI search tools) for improved examination by patent offices. Fast and low cost challenge procedures could be introduced allowing third parties to challenge the validity of a confirmed SEP before an independent arbitration panel. This procedure could be made mandatory before going to court or alternatively, if an implementer does not make use of the validity challenge procedure before going to court, it could be obliged to compensate the SEP holder in case the implementer loses in court.

### **Where to license in the value chain?**

One of the most disputed questions in the context of SEP licensing is whether, as a result of their FRAND commitment or their obligations under competition law, SEP holders are under an obligation to grant FRAND licences to entities at any level of the value chain requesting such licences ("license to all") or whether they can select the level in the value chain where they grant FRAND licenses ("access to all").

The members have decided not to take position as to what is the appropriate level where licensing should take place, but some members have tried to resolve this issue, by setting out a number of principles that could guide the licensing of SEPs in the value chain.

First, *licensing at a single level in a value chain for a particular licensed product (or case of application)*. From an economic perspective, it may be more efficient if all relevant SEPs are licensed at a single level in the value chain ("the licensing level"). Licensing at one level, rather than at multiple levels, will substantially reduce transaction costs and the risk of "double dipping", as well as the risk of under-compensation for the licensor if potential licensees at different levels of the value chain level try to push the royalty burden to other levels in the value chain to minimize their own royalty. For this principle to work in practice, some members believe that a degree of horizontal and vertical coordination between SEP holders and licensees may be needed.

Second, *a uniform FRAND royalty for a particular product irrespective of the level of licensing*. Thus, the royalty for a license for a SEP portfolio that is fully implemented in an end-product should be the same, whether it is licensed to an OEMs or to a supplier if the latter's product also fully implements that SEP portfolio.

Third, *the FRAND royalty is a cost element in the price of a component and should be passed on downstream*. If licensing is targeted at a level higher up in the value chain, to avoid a situation where the supplier would have to absorb the (entire) cost from its profit margin, it should be possible for this supplier to increase the price of its product to account for the extra costs of the license fee (i.e. the related cost (or value) should be passed down in the value chain). For this principle to work in practice, vertical coordination discussions may be needed in the relevant value chain.

Some experts believe that to make the licensing principles work in practice, the level of licensing should ideally be determined as early as possible and preferably before the market for each licensing product for an IoT vertical takes off. Measures should also be taken to mitigate the possible negative consequences that may arise for SEP holders or implementers, from the selection of a given level in the value chain where licensing would take place. If licensing at the component level would prevail, the possible negative consequences that could be felt by SEP holders could be addressed by the three licensing principles listed above. If licensing at the end-product level would prevail, component suppliers may be concerned that they may not be sufficiently protected to lawfully produce their components. To provide suppliers appropriate assurances for their business, several instruments could be used, including have made rights, non-asserts, covenants-not-to-sue or to sue last.

### **How to establish fair, reasonable and non-discriminatory (FRAND) terms and conditions?**

#### *Fair and reasonable: determination of a royalty*

The determination of a royalty can be done in different ways, but it typically requires identifying a royalty base and a royalty applied to that base. Different values can be used for calculating the royalty base. It can be based on the value of the sales of the entire end-product, of intermediate products such as modules or of the smallest saleable patent practicing unit (SSPPU) implementing the patented technology. The royalty can be set as a percentage of the royalty base (*ad valorem* royalties) or a per-unit payment. In practice, licensors and licensees may adopt hybrid royalty schemes, e.g. a percentage rate subject to (per-unit) royalty caps.

Given a license's other terms and conditions, an offer falls outside the Fair and Reasonable (FR) range if the SEP holder's compensation exceeds the incremental value that the patented technology adds to the licensed product. The terms and conditions on offer should not reflect any hold-up value, which may result from irreversible choices made by licensees during the development or the implementation of a standard. A licensing offer also falls outside the FR range if it fails to remunerate the SEP holder for the value added created in the product implementing the standard. In other words, a FR license should not reward hold-out, i.e. the unlicensed use of the patented technology by refusing to enter into good faith license negotiations or by delaying such negotiations.

Most but not all members consider that the economic value that the patented technology adds to a licensed product may differ from the economic value that such a technology adds to another licensed product. This may be because different products rely on the technology in different ways or because the technology enhances the value of different products differently.

There are several approaches for the determination of an FR value of a SEP license, including the *ex ante* approach, the comparable license agreements approach, the top down approach, and the present value-added (“PVA”) approach. Some members have made a structural reform proposal for the use of the PVA approach for the determination of an FR value of a SEP license. Each of the valuation methods described in this Part has its pros and cons. Which one to choose from will depend on the answers to some key questions such as the point in time when a valuation is to be done and the availability of the required data. For example, the comparable licenses approach will not work if there are no comparable licenses available.

For these reasons, it may be preferable to use several methods at once. For example, one may use the comparable license approach and then check its results by reference to the top down approach. Whatever valuation method is used, it should be realized that a valuation method is unlikely to provide an exact number as output. Given the spread in the data for the various input parameters used in a valuation, the outcome is typically a range and not an exact number.

#### *When are licensing conditions non-discriminatory?*

This aspect of the FRAND commitment cannot be seen independently from the FR side. The ND commitment requires the licensor to treat similarly situated parties in a similar manner. In the EU Treaty, a similar requirement follows from Article 102(c) TFEU, which prohibits dominant firms to engage in anti-competitive discrimination.

First, it is generally agreed that the ND commitment does not require the SEP holder to offer the exact terms and conditions to all licensees. A SEP holder should be allowed to respond to different market situations by offering different licensing terms. However, in the presence of similarly situated implementers, differences need to be objectively justified based on a holistic view of relevant elements, such as sales volumes, certainty of royalty payments, geographic scope, etc.

Second, volume discounts, lump sum discounts and annual royalty caps are generally acceptable if offered to competitors that are similarly situated unless they greatly favour one or more licensees without any added benefits to the licensor. Pursuing certain implementers for a license and not others is not discriminatory either, as licensors cannot be expected to pursue all implementers at the same time. On the other hand, if there exists evidence of selective enforcement in a way that might lead to intentional skewing of competition, this type of situation should be further scrutinized.

Third, analysis of the ND condition in large part is based on comparing license terms and conditions offered or granted to licensees that are similarly situated with those offered to a potential licensee so as to ensure that the latter is not being treated less favourably. Hence, some level of transparency with respect to existing licenses is required. However, non-disclosure obligations in license agreements may make it impossible for licensees and licensors to verify that the ND limb of the FRAND commitment is satisfied. To address this problem, some members propose the creation of a confidential repository of existing SEP licensing agreements, which could be used by courts, competition boards, public arbitration boards or trusted persons.

Finally, some members propose that SEP holders should ideally use publicly available, standard license offers for all potential licensees, publish a list of licensed patents or publicly disclose existing licensee information. Some members also propose that the EC promote a methodology,

which provide certain ranges as sort of safe harbour within which the license is considered non-discriminatory by identifying key-factors which might have an impact on this assessment.

### **How to facilitate negotiation and dispute handling?**

The basis for negotiations between a SEP holder and an implementer is the FRAND licensing commitment made by the SEP holder under the IPR policy of the relevant SDO. In addition, the Court of Justice of the European Union (CJEU) in *Huawei v. ZTE* has determined the conditions under which a SEP holder is entitled to an injunction. By placing obligations on both the SEP holder and the SEP implementer, whereby the former should demonstrate it is a willing licensor complying with its FRAND licensing commitment and the latter should show that it is a willing licensee seeking a FRAND license, the CJEU has defined a framework that applies to both parties' behaviour during their negotiations. Although the ruling in *Huawei v. ZTE* provides a helpful framework for SEP license negotiations, many questions remain unanswered. Therefore, some members make proposals to improve licensing negotiations between SEP holders and implementers in addition and beyond the current CJEU framework.

The complexity of the various interests involved in the use and licensing of SEPs requires a high degree of clarity and transparency with regard to the relevant facts, including those concerning the conclusion of license agreements with third parties.

According to a first proposal by some members, such transparency may be achieved through specific requirements for the exchange of information between negotiating parties and a transparency office that remains to be established for building and maintaining a strictly secret repository of SEP licence agreements.

A second proposal by some members goes a step further by requiring implementers to proactively seek licenses, prior to commercializing their standard-compliant products, from those SEP holders who have sufficiently demonstrated that their patents are essential for the relevant standard and who have made their standard licensing terms and conditions for standard-compliant products publicly available through the relevant SDO. Some experts propose that implementers not seeking licenses would be considered holding-out licensees who may be faced with a payment of a higher royalty than the FRAND rate. Some members further propose that if a SEP holder does not make publicly available its terms and conditions (see above), implementers should be required to record the type and model of their standard-compliant products (or services) at the time of introduction to the market in an SDO database. If the implementer fails to do so, it could be required to pay an increased royalty rate for the period prior to concluding a licence agreement. The proposals, therefore, require both parties to take a more active stand.

A third proposal by some members encourages parties to negotiate SEP licenses without delay by imposing sanctions on the party engaged in delaying tactics. If a court has determined that one of the parties has acted in bad faith, there are two alternative consequences. In the case of bad faith by the licensee, the licensee may have to pay a penalty in addition to its FRAND royalty, if the court does not order an injunction. On the other hand, if the licensor engaged in bad faith behaviour, the licensee may get a certain discount on its FRAND royalty.

Fourth, two competing proposals by two members relate to the question of whether a court should determine a rate that best reflects the FRAND principle or issue an injunction where the parties

cannot agree to a FRAND rate. One of the proposals provides a means of determining the most appropriate royalty rate if the court is presented with two FRAND offers that do not match. The other proposal proposes that if a SEP holder has made a FRAND offer that the potential licensee rejects, and the potential licensee cannot present sufficient evidence supporting its position that the SEP holder's offer is not FRAND, the SEP holder may be granted an injunction by the court.

Finally, some experts propose that litigating parties could by court order be asked to bring certain elements of their dispute before an independent expert body, which would make an assessment and a settlement proposal together with the reasoning supporting its decision. This assessment would not be binding on the parties but the court may be able to use the reasoning of the expert body as an expert opinion.

### **Patent Pools**

In view of the increasing number of declared SEPs and the increasing number of SEP holders, it is expected that implementers of complex IoT products using many different standards will need an increasing number of licenses. Patent pools are an attractive solution for these complex IoT products as they reduce transaction cost for both licensors and implementers, and may reduce the aggregate royalty for total number of SEPs used in the products licensed by the pool.

Against this background, some members make a number of proposals to make patent pools even more attractive. First, in order to have patent pools operational as quickly as possible after approval of a standard, some members propose that SDOs start fostering the formation of patent pools already during the standard development phase (without the SDOs becoming involved in the pool setting process themselves). The EC could direct European SDOs to undertake this fostering of patent pools. Second, some members propose that for the period until the operational start of a patent pool, a collective licensing agency could be established under public law in the EU, which upon request of an implementer could grant licenses under all European SEPs for a standard, for which at least two SEP holders have been identified. Third, according to some members for IoT products using a large number of standards it may be attractive to form patent pools for an as large number of standards as possible. SEP holders could be encouraged to form this pool of pools for example for clusters of standards related to the same type of technologies or functionality used in a product.

Joint licensing by patent pools reduces transaction cost for both licensor and licensees. Some members consider that transaction costs could be further reduced if implementers were allowed to form groups to jointly negotiate licenses on behalf of their group members. The mechanism and controls to form and operate these license control groups in compliance with the relevant competition rules would need to be developed.