SEP Licensing Level in Value Chains with Emphasis on IoT and Connected Cars

by **Maryam Pourrahim** *

Abstract: The complexities of licensing in multi-tier value chains, notably within industries like connected cars, pose significant challenges. The pivotal question arises: Who should be responsible for obtaining licenses for Standard Essential Patents (SEPs) - Tier 1, Tier 2, Tier 3 suppliers, or end-product manufacturers?

The Daimler vs. Nokia case vividly illustrates the intricate web of connected car value chains, where three primary licensing alternatives were scrutinized. SEP holders typically prefer granting licenses to end-product manufacturers, based on the product's value. However, end-product manufacturers may challenge both the royalty base and the necessity of obtaining the license, advocating for the component supplier to be the licensee.

Conversely, component suppliers seek licensing, aiming to innovate and develop independently. Legally, SEP holders may hesitate to license component makers due to the first sale doctrine, which limits patent exhaustion within the value chain.

This paper meticulously examines the intricate issue of determining the rightful licensee in multi-tier value chains, leveraging insights from the Daimler case. Our analysis explores patent law, including concepts like the have-made right, FRAND commitments under ETSI, and competition law. We scrutinize the potential shifts in policy favoring licensing component suppliers, offering valuable insights into the complex landscape of SEP licensing in connected car industries.

Keywords: SEP, Licensing, FRAND, IoT, Value Chains

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A. Introduction and Setting the Context

1 The intricacies surrounding licensing levels in multi-tier value chains present a formidable challenge, particularly in industries such as connected cars. Within these intricate chains, the fundamental question arises: Who should bear the responsibility of acquiring a license for Standard Essential Patents (SEPs) - Tier 1, Tier 2, Tier 3 suppliers, or end-product manufacturer?

2 The *Daimler vs. Nokia* case[1] vividly exemplifies the intricate web of connected car value chains, where three primary licensing alternatives were

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1 The Mannheim Regional Court's second Civil Chamber on 18 August 2020 (Decision 2 O 34/19, available at: http://eplaw.org/wp-content/uploads/2020/10/DE-2-O-34_19-URT-Allgemeines-Urteil-FINAL_ANONYMISIERT.pdf.) [hereinafter: Mannheim judgment]; the Munich I Regional Court's 7th Civil Chamber on 30 October 2020 (Decision 21 O 3891/19, available at: https://dejure.org/dienste/vernetzung/rechtsprechung?Gericht=LG%20M%FCnchen%20I&Datum=3; 0.10.2020&Aktenzeichen=21%20O%203891%2F19.) [hereinafter: Munich judgment]; and the Düsseldorf District Court on 26 November 2020 (Decision 4c O 17/19, available at: https://www.justiz.nrw.de/nrwe/lgs/duesseldorf/lg_duesseldorf/j2020/4c_O_17_19_Beschluss_20201126.html.). The case number before the ECJ is C-182/21. [hereinafter: Düsseldorf judgement]. The District Court of Düsseldorf decided to stay the proceedings and requested further guidance from the ECJ. Nokia

under scrutiny. These alternatives hold different preferences among involved parties. SEP holders ideally prefer granting licenses to end-product manufacturers, based on the end-product's value. However, the end-product manufacturer might challenge not only the royalty base but also the necessity of obtaining the license. They could argue that the appropriate licensee should be the component supplier providing the SEP-integrated component, advocating that the component price itself should be the royalty base.

3 Conversely, component suppliers, often spanning multiple tiers, may stake their claim for a license. Their aim extends beyond legally furnishing the 4G component for end-product manufacturing; they seek the freedom to innovate and develop independently, potentially selling to other clients. However, they are unlikely to agree to pay royalties based on the end-product's value, challenging this as an appropriate base.

4 But legally why is it that SEP holders are not willing to license at component makers' level? The answer should be sought in the *first sale* doctrine (also known as *patent exhaustion*), which acts as a defence against a claim of patent infringement in value chains.[2] Under this doctrine, once a patentee grants licence to some tier in a value chain, he cannot succeed on a claim that a subsequent user or purchaser of the article infringes the patent. It is because a patentee can license only *once* in the production chain *per* patent, either to the component or to the end-product manufacturer.[3] The first licensed sale of patented products exhausts patent rights. Therefore, if a SEP holder gives licences to a component maker, he will be prevented from future attempts to extract royalties from downstream purchasers of the component including the end-product manufacturer who is economically a more interesting client for the SEP holder.[4]

5 In this paper, our goal is to meticulously examine and address the intricate issue of determining the rightful licensee in multi-tier value chains, leveraging the insights and complexities detailed through the lens of the Daimler case.

I. Structure of Value Chain in Connected Cars

6 Nokia initiated a legal action against Daimler, alleging patent infringement concerning a vital data transmission method for Long Term Evolution (LTE), the fourth-generation mobile communications standard regulated by the 3rd Generation Partnership Project (3GPP), under

Technologies Oy vs. Daimler AG (Case C-182/21), Request for a preliminary ruling from the Landgericht Düsseldorf (Germany), lodged on 23 March 2021. Available at: https://curia.europa.eu/juris/document/document.jsf;jsessionid=380BD291C5D9D971330D7A64BE50965A?text=&docid=243511&pageIndex=0&doclang=en&mode=doc&dir=&occ=first&cid=620502. [hereinafter: Nokia vs. Daimler, Request for a preliminary ruling]. For an English translation of the referral decision. See: https://curia.europa.eu/juris/showPdf.jsf?text=&docid=240963&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=3837153.
It is also worth noting that the request for a preliminary ruling was removed from the register as Nokia and Daimler concluded a licensing agreement for the use of Nokia's mobile patents by the German car manufacturer. The terms of this agreement remain confidential as agreed between the parties. See: ECLI:EU:C:2021:575, available at: https://curia.europa.eu/juris/liste.jsf?lgrec=fr&td=%253BALL&language=en&num=C-182/21&jur=C).

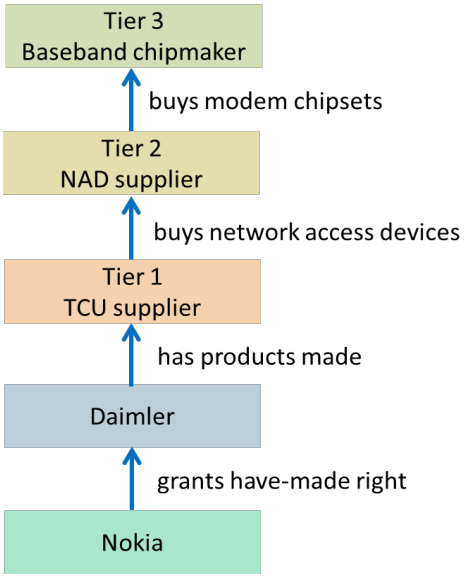
2 *Quanta Computer, Inc. vs. LG Electronics,* Inc., 553 U.S. 617 (2008). The court stated that *"[t]he longstanding doctrine of patent exhaustion provides that the initial authorized sale of a patented item terminates all patent rights to that item"*.

3 Anne Layne-Farrar and Richard J. Stark, 'License to All or Access to All? A Law and Economics Assessment of Standard Development Organizations' Licensing Rules', George Washington Law Review, 88.6 (2020), 101–42 <https://doi.org/10.2139/ssrn.3612954>. P. 114.

4 One may wonder could one prevent patent exhaustion if the SEP holder grant royalty free licence to the component maker and a licence to end-product manufacturer with the argument that by this the patentee's right will not be exhausted. (See Justus Baron and others, 'Group of Experts on Licensing and Valuation of Standard Essential Patents "SEPs Expert Group" (E03600) Contribution to the Debate on SEPs' <https://ec.europa.eu/docsroom/documents/45217>. P. 92). The answer is negative as this argument was once repelled by the US Supreme Court in LifeScan Scotland, Ltd. vs. Shasta Technologies as the Court held that patent exhaustion principles apply to all authorised transfer whether it be by sale or as a gift, and that in the case of an authorised and unconditional transfer of title, absence of consideration is no barrier to the application of patent exhaustion principles. (See *LifeScan Scotland, Ltd. v. Shasta Technologies*, LLC, 734 F.3d 1361 (Fed. Cir. 2013). At 1375 and 1376).

European Telecommunications Standards Institute's (ETSI) umbrella. Nokia notified ETSI in 2014 about its patent application's importance to the LTE standard and issued a FRAND commitment, pledging to offer licenses under fair and reasonable terms to third parties.

7 Daimler, a renowned German automaker, provides diverse mobility and financial services, including vehicles equipped with Telematics Control Units (TCU). These TCUs enable internet connectivity via the LTE network, allowing users access to services like satellite navigation, music streaming, and over-the-air updates without dealership visits. Crucially, TCUs facilitate the required emergency call system (eCall), enhancing vehicle safety and user experience. The TCUs are not manufactured by Daimler itself, but as shown below, in a multi-tier production chain. Daimler obtains the TCUs from its direct suppliers (Tier 1 suppliers). The Tier 1 suppliers, for their part, obtain the NADs (Network Access Devices) required to produce the TCUs from other suppliers (Tier 2 suppliers). The Tier 2 suppliers in turn receive the chips they need for the NADs from Tier 3 suppliers. After the Tier 1 supplier provides the TCU to the Original Equipment Manufacturer (OEM), it is integrated into the vehicle. The broadband chipset enables cellular communications, while downstream equipment handles other functions beyond cellular standards.



Chain structure in connected car

8 The litigation between Nokia and Daimler began in 2019 following a failure in the initial negotiations between the car manufacturer and the mobile company. Daimler and some of its suppliers including Continental, Huawei, Burry, and TomTom, complained to the European Commission that Nokia was exploiting its market power with its SEPs.[5] Nokia initiated a counter-offensive, suing Daimler for infringement of several patents at the regional courts of Mannheim, Munich and Düsseldorf. Then invalidity suits against Nokia patents were brought at the European Patent Office and the German Federal Patent Court. Daimler and its suppliers had emphasised that not the car manufacturer, but rather its Tier 1 and Tier 2 suppliers should take the Nokia patents licence, while Nokia had long refused this.[6]

9 While Germany's competition authority, the Bundeskartellamt, had recommended in June 2020 for the Mannheim Court to pause the proceedings and seek guidance from the ECJ regarding the appropriate level of licensing for SEPs, it did not

5 See: Foo Yun Chee, 'Daimler Asks EU Antitrust Regulators to Probe Nokia Patents' (*REUTERS*) <https://www.reuters.com/article/us-eu-daimler-nokia-patents/daimler-asks-eu-antitrust-regulators-to-probe-nokia-patents-idUSKCN1RA2KF>.

6 In the course of negotiations Nokia was relatively flexible with regard to licensing level, as it once offered a limited license to the tier 1 suppliers. However, it could not resolve the problem as Nokia were insisting on an end-product royalty base that was rejected by Daimler and its suppliers (Daimler argued for a licence to its suppliers and based on the average purchase price of TCUs. See: Mannheim judgment. (n 1). In July 2019, Nokia presented the Connected Vehicle Value Chain Licensing Model (CVVL) as a supplement to the tier 1 Model. Under this model, suppliers would be granted a limited license for research and development and for the production of a connected car. They would also provide a license to their customers, who would be entitled to produce a TCU via a have-made right provided at upstream. Following a hearing at the Düsseldorf court in 2020, Nokia made another licensing offer known as the Automotive Licence Agreement (ALA) to several tier 1 suppliers, including Continental, Bosch, Bury, TomTom, Peiker, Renault, Harman, Fico Mirrors, and Huawei. The offer provided unrestricted licenses to manufacture and distribute TCUs, as well as licenses for the car manufacturer's customers and any other customers of the suppliers. However, the tier 2 supplier Sierra Wireless, which had applied for a license, was not offered by Nokia.

occur[7] until March 2021 when the Düsseldorf Court referred the case to the ECJ. The referral sought clarification on ten detailed questions, the main one being: *"[i]s there an obligation to license suppliers on a priority basis?"*[8] This was a great chance to see the ECJ's judgment on this delicate issue, however, it failed as the parties were able to conclude a licensing agreement.

II. Research Objective and Approach

10 The main objective in this paper is to see whether any related branch of law can provide some legal basis to define a certain level of licensing in value chain or to definitely exclude a certain level. Obviously, the problem of licensing does not stem from the mere legal concerns, but it is certainly the financial aspects of the problem that are much more important. In fact, the licencing level is a matter of debate because it is directly or indirectly related to the royalty rate.

11 In practice, three primary licensing options are possible. The first option is a licence to the end-product manufacturer at an end-product rate, which is mostly the SEP holders' preference. The second is a licence to component suppliers at a component-based rate, which is mostly the end-product manufacturer's preference. The third is a licence to the component manufacturer at an end-product rate which is also demanded by SEP holders.

12 These options were exactly the principal offers and counteroffers exchanged in the *Nokia vs. Daimler* case[9] (*Daimler*). By focusing on this case and through investigating different branches of law, we aim to examine the problem of licencing level and royalty base in multi-tier value chains. This objective is met through exploring those parts in any branch of law that can somehow help resolve the level definition problem either in a positive (affirmative) or negative manner. That is to say that whether and which legal source may suggest or exclude one level (either component or end-product).

13 It should be noted that the provided study is driven such that any borderless and lengthy discussion is avoided, and for this, we fix our scope within the boundary of the three main offers exchanged between the parties and the three judgements provided in the *Daimler case*.

14 This study falls within the purview of European jurisdiction, with the primary focus directed towards European law, encompassing both EU law and national law. In instances where there is no relevant EU law, such as when interpreting the ETSI contract, reference is made to the provisions of national law, exemplified by the French Civil Code.

15 However, in certain specific contexts, particularly when exploring aspects related to have-made rights, the study incorporates insights from US jurisprudence. This inclusion is motivated by the advanced and diverse nature of US legal precedents, as well as their prominent status in the literature. Omitting reference to US case law would render the discussions incomplete, given its substantial relevance and contribution to the overall understanding of the subject matter. We, however, believe that the findings drawn from US case law are also applicable to the EU context.

B. Level of Licencing Problem

16 In this paper the question of level of licencing is treated through examining it from the perspective of patent law, FRAND commitment, and competition law.

17 In each topic, we collect those parts that are related to this question. Such a relation can be either in an affirmative manner, where any above-mentioned legal sources designate a certain level as the right licensee, or in a negative manner where they exclude a level from the right or possibility of having licence. In some topics such as patent claims and exhaustion, the findings may only suggest an efficient level rather than imposing a legal duty. Regardless,

7 See: Mathieu Klos, 'Federal Cartel Office Issues Opinion in Connected Cars Case' (*JUVE*, 2020) <https://www.juve-patent.com/cases/federal-cartel-office-issues-opinion-in-connected-cars-case/>.

8 *Nokia vs. Daimler*, Request for a preliminary ruling. (n 1). P. 2.

9 (n 1).

we will focus on the offers made by the parties in *Daimler* and the courts' judgments in this very case, as justified earlier.

I. Patent Law

18 Patent law is not directly concerned with licensing since a patent confers a negative right to exclude others from practicing the invention, rather than an affirmative right to practice it. However, we examine patent law to determine if the key principles derived from it could help address the issue of level of licensing. For this purpose, we start with investigating the capacity of have-made right in determining the licencing level. Then, we discuss if patent claim and patent exhaustion can suggest an appropriate tier of value chain as a true licensee.

1. Have-Made Right

19 Nokia's offer to only license Daimler and not its suppliers was based on the legal justification that licencing to the end-product manufacturer along with have-made rights can be sufficient to protect Daimler's suppliers from any patent infringement claim. Due to its importance in *Daimler*, and its capacity in responding to our question about licensing level, have-made rights will be discussed in detail in this section to understand its conditions and limitations, and to see whether it can be an effective means for protecting component suppliers against possible infringement.[10]

a.) Definition of Have-Made Right

20 The concept of have-made rights shares similarities with the German legal concept known as the *extended workbench*. Under the extended workbench concept, a licensed manufacturer can have components of the licensed product produced by a third party under its directions. In this study, we primarily rely on US cases due to their greater number, diversity, and development. However, it is important to note that a similar approach would likely apply in the EU as well. Analysing have-made rights provides a foundational understanding of how the concept of the extended workbench can be interpreted in the European context.

21 According to the US case law,[11] a licensed party who has the right to "have products made", can exercise his right by requesting an unlicensed third party to manufacture the product but return it *solely* to the licensee who can either use it for his purpose or sell it out in the market.[12] The unlicensed party is protected under this arrangement, but the licensee is only permitted to have the product made for himself though he can sell it later.[13] The US courts articulate

10 When it comes to evaluating the essence of a license agreement, the assessment ultimately depends on the applicable law in each jurisdiction. However, regardless of the jurisdiction, what matters most is how licensing is carried out in practice, especially in the context of a complex value chain.

11 Under the US case law there are two factual circumstances where unlicensed parties can attain rights that shield their actions from infringement. The first scenario is have made right. The second which is called foundry suggests that an unlicensed third party can give his design (in the form of technical drawings, plans, etc.) to a licensee and ask him to use his rights to manufacture the product, then either sell it out directly in the market under his licence or sell it back to the third party for that he resells it to his customers. Once the product was made and sold by the licensee to the third party, the doctrine of patent exhaustion precluded the SEP holder from suing the unlicenced third party. The *Intel Corp. vs. ULSI Sys. Tech., Inc.*, 995 F.2d 1566 (Fed. Cir. 1993) is an example of this scenario where HP was given a license by Intel to be a foundry for certain computer chips, to manufacture and sell them to third parties. Another company, ULSI, designed its own, similar chip, and asked HP to manufacture it. HP did so, at this point Intel sued ULSI for infringing Intel's patents, as ULSI had obtained no license from Intel. The Court held that because HP had manufactured the chips, and because at the time it did so it held a license to the patents, therefore it was a legitimate source of the chips, no infringement had occurred and every sale of ULSI chips were lawful and thus exhausted those patents.

12 *Cyrix Corp. vs. SGS-Thomson Microelectronics*, 77 F.3d 1381 (Fed. Cir. 1996). At 1387-88.

13 The *Cyrix* case is the example of this scenario where the third-party (ST-Italy) manufactured microprocessors under ST's have-made rights, and ST then properly sold the products to a different entity, Cyrix. The two agreements, one permitting ST-Italy to manufacture microprocessors for ST and the other providing for ST's sale of microprocessors to Cyrix, were separate business transactions. The court found that ST was using both its own facility and ST-Italy's to satisfy its obligation to provide microprocessors to Cyrix. The products manufactured by ST-Italy were made for ST. Therefore, the arrangements among ST, ST-Italy, and Cyrix

that a have-made right is derived from the term "to make" set forth in 35 U.S.C § 271 (a), that provides that a licensee with have made rights possesses the right to request an unlicensed third-party to manufacture a licensed good for the licensee.[14]

22 The relatively recent decision of *TCL vs. Ericsson* precisely explains the necessary conditions when a have-made right can be granted: (a) the licenced party owns and supplies the *designs*, *specifications and working drawings* supplied to the third party; (b) such designs, specifications and working drawings are complete and sufficient so that no substantial additional design, specification and working drawings are needed by the third party; and (c) the third party is not allowed to sell such product to other third parties.[15] It then concludes that as long as the *design* is carried out fully by the licensee, the manufacture can be fulfilled by any third-party including tier 1, tier 2 and so on.

23 In this context, the distinction between *design* and *manufacture* is of essential importance. What have-made rights mean is, in fact, to have the third party manufacture the product not to have him both design and manufacture. In some cases, like those related to metal production, design (method) and manufacture are not separable[16] but, in most cases including telecommunication technology they are two separate processes. This is also the case in connected car.

b.) Evaluation of Have-Made Rights

24 After having provided a definition for have-made right and its fulfilment conditions, we need to know if it can work well and effectively in practice. To get this purpose, we examine it critically through the existing literature and case law.

(aa) Scope

25 Geradin criticises the effectiveness of the have-made right approach arguing that it does not allow component makers to have some components manufactured by suppliers higher in the supply chain (tier-2 or tier-3).[17] However, US case law holds a different perspective. In *Carey*, the court ruled that the have-made rights permit the licensee to engage *others* to do all the work connected with the production of the licensed article for him.[18] A license to produce, use, and sell is not limited to personal production, use, or sales by the licensee. It allows the licensee to employ others to assist in the production, use, and sale of the invention. Nor need he take any personal part in the production.[19] The court explained that the legal effect of have-made rights flow from the licensor to the licensees and down to the third-party manufacturer before the third party engages in any of those otherwise infringing acts. In this context, it is more reasonable to believe that the manufacturer is not limited only to the upstream operator immediately above the end-product manufacturer, but any third-party suppliers (tier 1 to 3) are included provided that the principal condition emphasised in *TCL vs. Ericsson* case is met.

(bb) Explicit or Implicit

26 In the US, case law indicates that have-made rights are among the exclusionary rights outlined in the patent statute. However, unless otherwise stated in the grant clause, the right to make, use and sell a licensed product inherently includes the implied

were a valid exercise of ST's have-made rights under its agreement with Intel.

14 For e.g., see *Cyrix Corp. vs. Intel Corp.*, 77 F.3d 1381 (1996) and *Intel Corp. vs. Broadcom Corp.*, 173 F. Supp. 2d 201 (D. Del. 2001).

15 *TCL Commc'n Tech. Holdings, Ltd. vs. Telefonaktiebolaget LM Ericsson*, CASE NO: SACV 14-341 JVS(DFMx) (C.D. Cal. Mar. 9, 2018).

16 In the *Carey* case, the patented process of manufacturing titanium was licensed, and the licensee had titanium "manufactured" by a third party. *Carey vs. United States*, 326 F.2d 975 (Fed. Cir. 1964).

17 He argues that component makers are excluded from extended workbench since they are not considered part of the extended bench of the licensed OEM/end -product manufacturer. Damien Geradin, 'SEP Licensing After Two Decades of Legal Wrangling: Some Issues Solved, Many Still to Address' (2020) DP 2020-04 TILEC Discussion Paper.

18 *Carey vs. United States*, 326 F.2d 975 (Fed. Cir. 1964). At 979.

19 *Idem.*

right to have those licensed products made by a third party. In the *Star* case, for example, Star used third-party contractors to manufacture licensed products for its own use. CoreBrace (the patentee) argued that such use of third parties was a violation of the licence agreement, as Star (licensee) did not have the right to have a third party make products for them.[20] The court, however, ruled that Star did not breach the licence agreement by using third-party contractors to make the licensed products.[21] The court reasoned that even when a licence agreement prohibits sublicensing, have-made rights are still granted unless they are expressly prohibited.[22] The court explained that a licence to produce, use, and sell a product inherently includes the right to have it made by a third party, and have-made rights are implicit in the right to make, use, and sell, unless there is a clear and explicit contrary intent.[23]

27 It is worth mentioning that the have-made right is explicitly included in the ETSI IPR policy. Therefore, there is no doubt regarding its applicability in the context of *Daimler*.

(cc) Legal Certainty

28 Have-made rights may not provide component makers with adequate legal certainty as they indirectly protect them, i.e., their legal position is dependent of that of the licensed end-product manufacturers, meaning that if the latter lose their licence, the component makers could be susceptible of infringement claims. However, we recognize that such uncertainty is almost inevitable in a multi-tier supply chain, as there is only one licence per patent for the entire chain.[24] Thus, both end-product manufacturers and component makers may feel such an uncertainty.

20 *Corebrace LLC vs. Star Seismic LLC*, 566 F.3d 1069 (Fed. Cir. 2009).

21 *Ibid*. At 1071.

22 *Idem*.

23 *Ibid*. At. 1073.

24 See discussions provided later for patent exhaustion.

(dd) Innovation and R&D Concerns

29 By limiting the activity of component makers to only manufacturing at the direction of end-product manufacturers, the scope for their independent research and development may be restricted. This could result in a reduced ability for the component makers to invest in new technologies, innovate and offer new improved products to the market. However, many countries have research exceptions in their patent rules.[25] These exceptions also exist at the international level.[26]

30 It must be noted that although the availability of research exceptions can provide some relief to component makers in short term, in the long run their usefulness may be limited. For example, if a tier 1 supplier finds an alternative use for a patented technology, they may eventually need a licence to exploit it. Moreover, the availability of research exceptions may not be sufficient to encourage

25 Most the EU Member States have adopted statutory exceptions. Article 27(b) of the Community Patent Convention (CPC) states that: "*[T]he rights conferred by a Community patent shall not extend to... [the] acts done for experimental purposes relating to the subject-matter of the patented invention*". German case law shows that the research exemption is not limited to pure scientific research and can also cover the development of new consumer products. Siebrasse and Culver refer to the Clinical Trials I and II (Klinische Versuche [1997] RPC 623 (Bundesgerichtshof and [1998] RPC 423) where the court ruled that "*Since the provision makes no limit, either qualitative or quantitive on the experimental acts, it cannot matter ... whether they are employed for wider purposes, such as commercial interests. And, of course, on the facts, the use found to be experimental was aimed ultimately at the commercial purpose of developing and marketing a new indication for the drug in question*". Similarly, in Clinical Trials II, the court stated (at 433) that "*the purpose that the experiment is intended to serve does not at all have to be of a purely scientific nature. According to this, the commercial orientation does not from the outset turn the experimental activity into an impermissible patent infringement*." Norman Siebrasse and Keith Culver, 'The Experimental Use Defence to Patent Infringement : A Comparative Assessment' (2006) 56 The University of Toronto Law Journal 333 <https://www.jstor.org/stable/4491699>.

26 For example, article 30 of the TRIPS Agreement allows for research exceptions stating that "*Members may provide limited exceptions to the exclusive rights conferred by a patent, provided that such exceptions do not unreasonably conflict with a normal exploitation of the patent and do not unreasonably prejudice the legitimate interests of the patent owner, taking account of the legitimate interests of third parties.*"

component makers to invest in long-term research. Patent holders may still have significant leverage over them, and the threat of patent infringement litigation may deter component makers from investing in new technologies and innovations.

(ee) Competition Concern and Commercial Freedom on Open Market

31 If have-made right becomes the norm, it may lead to concerns about competition, since suppliers are only able to manufacture components for the end-product manufacturer but are not legally allowed to develop, manufacture, and distribute the components independently.

32 In the *Daimler* case, the Munich and Düsseldorf courts did not share the same view on competition concerns stemming from the have-made right solution. The Munich court observed that the suppliers without their own licence are not completely without rights, they do have a right to legally secure access to the standardised technology. It ruled that Daimler is easily able to have LTE standard-compliant supplier parts manufactured by its suppliers in the future by means of extended workbench and thus grant them legally secure access to the technology licensed by Daimler.[27] On the contrary, the Düsseldorf court placed significant emphasis on the challenge faced by component makers operating under the extended workbench without a comprehensive licence. The court contended that such a limitation could hinder their economic activity, curtail their ability to explore new markets, and potentially lead to higher prices that eventually will reduce consumers' choice. The issuance of a licence must extend beyond mere access to the standardised market. Instead, a licence should encompass the provision of opportunities for the licensee to engage fully in standardised technology. This must enable them to compete unrestrictedly across all product markets, both current and future[28].

33 It is noteworthy to reference the EU Commission Notice on the assessment of subcontracting agreements.[29] This Notice affirms the legality of the extended workbench concept under EU competition law. Specifically, it states that any extended workbench agreement and its restrictive clauses between the contractor (in our case, Daimler) and the subcontractor (Daimler's suppliers) do not fall under the scope of Article 101(1) TFEU. In essence, this notice supports the argument that if the conditions for have-made rights are met, a licensor is not obligated to license component makers, as it is considered legally permissible under competition law.

2. Patent Claim

34 The other patent law element that has potential of significance in terms of the licencing level is the subject of patent claim.

35 By definition, the protection of patents shall be determined by the terms of the claims.[30] Here a helpful indication is that if *all* the elements of a patent claim are shown to exist in a component with not even one single element missing,[31] the claim is said to be infringed.[32] This condition is a sufficient condition in the sense that if in addition to having all the patent elements, the component has also some extra elements which are not related to the patent, the patent is still considered infringed.[33]

36 But how can this help determine the licensing level? To answer this, it will make sense if we believe that

27 See Munich judgement, (n 1).

28 See Düsseldorf judgement, (n 1).

29 European Commission, Commission notice of 18 December 1978 concerning its assessment of certain subcontracting agreements in relation to Article 85 (1) of the EEC Treaty. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31979Y0103(01)>.

30 European Patent Convention (EPC 1973), Article. 69.

31 *TIP Systems, LLC vs. Phillips & Brooks/Gladwin, Inc.*, 529 F.3d 1364 (Fed. Cir. 2008). At. 1377.

32 *Markman vs. Westview Instruments, Inc.*, 517 U.S. 370, 373 (1996). At 373-374.

33 *A.B. Dick Co. vs. Burroughs Corp.*, 617 F. Supp. 1382 (N.D. Ill. 1985). At. 1398. In a simple example, for claim of the widget X composed of the elements 1, 2, and 3, a widget with elements 1, 2, and 3 would infringe, as would a widget with elements 1, 2, 3, and 4. On the other hand, a widget with elements 1 and 3, but lacking 2, would not infringe.

one way for a component maker to insist on getting a licence (or for the end-product manufacturer to insist on refusing the licence offer) is to show that the component in question involves all the elements of the SEP's claim. In such a case, the component maker can show himself as the right licensee. On the other hand, if the SEP's claim is so broad that it applies to a combination of multiple components of the end-product, then the SEP holder has a legitimate reason to want to grant license to the end-product manufacturer.[34]

37 It should be noted that SEPs are often licensed as a portfolio, consisting of hundreds or even thousands of patent families. Additionally, a single SEP may cover multiple technologies, which can lead to overlap between the patents used by different suppliers. As a result, the SEP holder would need to ensure that all suppliers are licensed to use only the relevant patents for their specific component and that no unlicensed patents are being used. Therefore, the licensing process can be complex and require lengthy negotiations between the patent holder and the potential licensees to determine which patents are essential to the standard and the appropriate licensing terms and conditions.

38 This finding is important for our study on the licensing level as it suggests that in complex standards such as cellular, there may be many SEPs involved that may not be reduced to a single component.[35] Therefore, these SEPs would not be infringed until when all the components sharing them are incorporated at the end-product level. In other words, a component can indirectly infringe the SEPs once it is inserted in the end-product and puts the SEPs into effect. In this case, making use of a patent claim to identify the licensing level yields to the SEP holder's favourite choice, i.e., suggesting the end-product manufacturer as the right licensee. It is worth saying these complex situations apply specifically to cellular standards and the smartphone industry. The situation may vary in other standards and industries. Therefore, a thorough case-by-case analysis of each standard and SEP is required to determine whether infringement occurs at the component or at the end-product level, and to be able to suggest one level as licensee.

39 It must be noted that this finding is not a legal basis for requiring granting licence at one level or another, however, it makes clear which level may be more efficient and reduce transaction costs.

3. Patent Exhaustion

40 Typically, and as seen in the *Daimler* case, the end-product manufacturers try to place the licence at the component supplier level to make it possible for everyone down in the chain including the end-product manufacturer (Daimler) to use the components (TCU) free from any patent rights. Conversely, the patentee (Nokia) who prefers to licence at the end-product level, is very attentive not to licence at any level above the end-product. Patent

34 Now if an infringement occurs at the component level, the SEP holder has still the option to license the patents or consent to infringement without seeking to enforce his rights. If he decides to offer licence, he is free to set the terms and conditions as he sees fit. (see: *McCoy vs. Mitsuboshi Cutlery, Inc*., 67 F.3d 917, 920 (Fed. Cir. 1995). At. 922. However, the FRAND commitment restricts options available to him since he has agreed to make his patents accessible to standard users and offer licenses on FRAND terms. As a result, he cannot exclusively reserve implementation rights for himself.

35 In a study by Putnam and Williams, they analysed Ericsson's SEPs portfolio for 2G/3G and 4G standards and found that the claims of Ericsson's SEPs portfolio read on many components alone, components in combination, complete handsets alone, and/or complete handsets in networks. Their analysis showed that around 71% of Ericsson's patents claimed some aspect of user equipment, either alone or in combination with claims to the network, while none of them claimed only the baseband chip. See: Jonathan D Putnam and Tim A Williams, 'The Smallest Salable Patent-Practicing Unit (SSPPU): Theory and Evidence' [20166] SSRN Electronic Journal.U.S. courts have begun to require that litigating parties base patent infringement damages on sales of the "smallest salable patent-practicing unit," or SSPPU, in an effort to constrain the patentee's damages claim to the true "economic footprint" of the invention. We ask whether this legal requirement can be grounded in economic theory, industry licensing practices, or the scope of actual patent claims. We find significant theoretical reasons to reject the mandatory imposition of the SSPPU rule, because the economic impact of an invention is not, in general, limited to the sales price of an input that allegedly embodies it. In the telecommunications industry, where the SSPPU rule has assumed additional policy significance in the context of FRAND commitments by owners of standard-essential patents (SEPs Pp. 41-43.

exhaustion[36] further reinforces this preference, as it is a one-way road downward in the supply chain, and not upward meaning that if the patent holder licenses the end manufacturer, the component maker would still need a separate licence to make and sell the patented component to other manufacturers or end users.

41 Against this background, one may conclude that patent exhaustion can suggest the component maker level as the right licensing level, since such a choice makes licensing more efficient as by adopting it there would be no need for further licensing downstream.[37] Although, this could be an option in simple-structured value chains, in complex chains including those related to the cellular, the outcome goes in the opposite direction as licensing the end-product manufacturer can be more efficient. Because in a SEP portfolio with multiple patents, if a component supplier receives a licence, it will only exhaust the relevant part of the SEP portfolio. The end-product manufacturers may still require a licence for the remaining patents that read on the downstream products.[38] This split licensing would be difficult and therefore it appears that having only one licence at the end-product level is much more efficient as in that level most of the patents in the portfolio are infringed and exhausted by the sale of the licensed product.[39]

42 However, licensing only at the end-product level raises the question of what would happen to the component makers without a licence, as they would still be infringers. Borghetti et al., argue that if the patent owner chooses not to pursue component makers in this case, it implies that the owner is not willing to exercise its exclusionary right against them, and have made rights safeguard them against patent infringement.[40]

4. Takeaway

43 Determining the appropriate licensee within a multi-tier value chain is beyond the scope of patent law. Patent law primarily defines the rights held by a patent holder and outlines actions that require authorisation. It does not, however, dictate which parties must engage in licensing agreements or under what circumstances. Nonetheless, it may offer guidance or recommendation for efficient licensing levels. In fact, patent law's role is primarily suggestive, rather than prescriptive when it comes to defining licensing levels.

44 To summarise this section, we can draw the following conclusions:

- If its conditions are fulfilled, most importantly that the end-product manufacturer is the body who completely performs the design of the IoT component, the have-made right serves as a tool that can suggest end-product level as the right licensing level.
- In industries related to cellular, since a single component often exhausts a SEP portfolio partially, attempt for making use of patent claim as a tool to define licensing level may lead to the recognition of end-product manufacturer as licensee.
- Since a licence relevant to a part of a SEP portfolio only exhausts that part, licensing at component maker level may lead to licensing

36 As discussed previously, the first sale doctrine also known as patent exhaustion acts as a defence against claim of patent infringement in value chains. Once a patentee gives license to some tier in a value chain, he cannot succeed on a claim that a subsequent user or purchaser of the article infringes the patent.

37 Damien Geradin and Dimitrios Katsifis, 'End-Product- vs. Component-Level Licensing of Standard Essential Patents in the Internet of Things Context', SSRN Electronic Journal, 2021, 1–34 <https://doi.org/10.2139/ssrn.3848532>. at p. 11 share the same view arguing that if the majority (or possibly all) of SEPs are implemented for the first time at an earlier stage (such as the chipset level), licensing at this level would not lead to additional transaction cost and would not involve multiple levels of licensing. This is due to the principle of patent exhaustion, which would provide immunity to operators further down the chain.

38 Jean-Sébastien Borghetti, Igor Nikolic, and Nicolas Petit, 'FRAND Licensing Levels under EU Law', European Competition Journal, 2020, 1–48 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3532469>. P. 17

39 *Ibid*. P. 18.

40 *Idem*.

split. Therefore, licensing at this level is not efficient.

II. FRAND Commitment

45 As a contractual obligation, FRAND commitment should be examined by reference to the wording of each tandards Development Organisation'a (SDO) IPR policies under which the commitment has been made. However, the current policies are not in harmony with each other, and there is an absolute lack of consensus regarding their interpretation. The Institute of Electrical and Electronics Engineers (IEEE) mandates SEP holders to license their SEPs to all parties including component suppliers.[41] The situation with the ETSI is less clear, as some interpret the ETSI IPR policy as requiring SEP holders to license their patents to component suppliers, while others disagree.[42] The lack of specific case law on this issue has further complicated the debate, with proponents of each approach interpreting the SDOs' policies to suit their arguments.

46 This section evaluates the legality and the feasibility of Daimler's counteroffer to Nokia which suggested a direct licencing to the tier 1 suppliers. We want to examine if SEP holders are obliged, based on their FRAND commitment to carry out such a licencing agreement rather than giving licence to the end-product manufacturer. To answer this, we examine the ETSI's IPR policy including its FRAND commitment to check if there exists any technical reason[43] for SEP holders to prefer one tier of the value chain over the others. It is worth saying that in our research, we focus solely on the analysis of the ETSI IPR policy as it serves as the basis for the FRAND commitment in the majority of SEP litigations including our *Daimler* case.[44]

1. ETSI IPR policy, Annexe 6, Article 3

47 Adopted in 1994, ETSI policy in Article 3 provides,

> "[...] STANDARDS and TECHNICAL SPECIFICATIONS [should] be available to potential users in accordance with the general principles of standardisation".[45]

48 If one recognises licensing as the *only way* to make SEP available to a potential user (i.e., a component maker), then of course this article is requiring the SEP holder not to refuse the supplier's request for licence. However, the dispute lies in the interpretation of the word *availability* with some arguing that it can only

41 IEEE-SA Standards Board Bylaws 2022.

42 In favour of the "licence to all" approach, see e.g., Karl Heinz Rosenbrock, 'Why the ETSI IPR Policy Requires Licensing to All', 2017.; Damien Geradin and Dimitrios Katsifis, 'End-Product- vs. Component-Level Licensing of Standard Essential Patents in the Internet of Things Context', SSRN Electronic Journal, 2021, 1–34 <https://doi.org/10.2139/ssrn.3848532>; Roberto Grasso, 'Standard Essential Patents: Royalty Determination in the Supply Chain', Journal of European Competition Law and Practice, 8.5 (2017), 283–94 https://doi.org/10.1093/jeclap/lpw089>; Tim W. Dornis, 'Standard-Essential Patents and FRAND Licensing-at the Crossroads of Economic Theory and Legal Practice', Journal of European Competition Law and Practice, 11.10 (2020), 575–91 <https://doi.org/10.1093/jeclap/lpaa047>; In favour of the "access to all" approach see e.g., Bertram Huber, 'Why the ETSI IPR Policy Does Not and Has Never Required Compulsory License to Alll: A Rebuttal to Karl Heinz Rosenbrock', SSRN Electronic Journal, 2017, 1–12 <https://doi.org/10.2139/ssrn.3038447>; Jean Sébastien Borghetti, Igor Nikolic, and Nicolas Petit, 'FRAND Licensing Levels under EU Law', European Competition Journal, 17.2 (2021), 205–68 <https://doi.org/10.1080/17441056.2020.1862542>; Anne Layne-Farrar and Richard J. Stark, 'License to All or Access to All? A Law and Economics Assessment of Standard Development Organizations' Licensing Rules', George Washington Law Review, 88.6 (2020), 101–42 <https://doi.org/10.2139/ssrn.3612954>; Marvin Blecker, Tom Sanchez, and Eric Stasik, 'An Experience-Based Look At The Licensing Practices That Drive The Cellular Communicatinos Industry: Whole Portfolio/Whole Device Licensing', Les Nouvelles - Journal of the Licensing Executives Society, LI.4 (2016) <ssrn: https://ssrn.com/abstract=2855078>.

43 By technical reason, we refer to all technical aspects of the patent and its implementation, and the way those aspects may affect the licensing process for different tiers of the value chain.

44 The number of SEPs reported to ETSI surpasses all those declared to any other SDOs, see: Chryssoula Pentheroudakis and Justus A Baron, 'Licensing Terms of Standard Essential Patents. A Comprehensive Analysis of Cases' (2017) <https://ec.europa.eu/jrc>. P.31.

45 Article 3 of ETSI states that: "the ETSI IPR POLICY seeks to reduce the risk to ETSI, MEMBERS, and others applying ETSI STANDARDS and TECHNICAL SPECIFICATIONS, that investment in the preparation, adoption and application of STANDARDS could be wasted as a result of an ESSENTIAL IPR for a STANDARD or TECHNICAL SPECIFICATION being unavailable."

be achieved through licensing, while others contend that it refers to accessibility in general that is not limited to mere licensing.[46]

49 To unlock the situation, the French law as the governing law of the ETSI IPR Policy[47] must be used to interpret any of its vague contractual terms.[48] The French Civil Code's Article 1190[49] states that "*in case of doubt, an agreement shall be interpreted against the one who has stipulated, and in favour of the one who has contracted the obligation*". In this context, SEP holder is the one who has committed to the obligation, and he may believe that accessibility favours him rather than licensing.[50] Hence, attempts to oblige the SEP holder to license the component maker based on this article fails.

2. ETSI IPR Policy, Annex 6, Article 6

50 According to Article 6 of Annex 6, in case of essential IPR related to a particular standard or technical specification, the IPR owner should provide the following.

> [A]n irrevocable undertaking in writing that it is prepared to grant irrevocable licences on fair, reasonable and non-discriminatory ("FRAND") terms and conditions under such IPR to at least the following extent:
>
> MANUFACTURE, including the right to make or have made customized components and sub-systems to the licensee's own design for use in manufacture; sell, lease, or otherwise dispose of EQUIPMENT so manufactured, repair, use, or operate EQUIPMENT, and use METHODS.[51]

51 The policy then defines the meaning of the term *manufacture* as the production of *equipment* and the latter as "any system, or device fully conforming to a standard". However, *device* and *system* have not been defined. The uncertainty is about whether the term *equipment* implies the mere end-product device, or whether it includes components as well. As discussed above, based on our interpretation of the French Civil Code, Article 3 will let the SEP holder interpret the vague terms including *equipment* here in his favour. And he will opt for a choice which favours him the most, i.e., licensing the end-product manufacturer based on the end-product price. In addition, the use of the words *at least* and *including* is not convincing to believe that the ETSI text includes component suppliers.

52 However, if one wants to go farther, he may utilise Article 1188 of the French Civil Code that suggests contracts are to be interpreted according to the common intent of the parties, rather than the literal meaning of the terms. If such an intent cannot be ascertained, the contract should be interpreted in accordance with the meaning that a *reasonable person* in the same situation would give to it. Identifying

46 See the list of literature at (n 42).

47 Article 12, ANNEX 6:ETSI Intellectual Property Rights Policy 2022.

48 ETSI as an *association* (a non-profit organisation) under French law is a type of contract governed by French contract law and according to the reform of 2016 is governed by the old code civil as it has concluded before 1st October 2016. See, *ordonnance n°2016-131 du 10 février 2016 portant réforme du droit des contrats, du régime général et de la preuve des obligations.* Available at: https://www.legifrance.gouv.fr/loda/id/JORFTEXT000032004939.

49 Available at: https://www.trans-lex.org/601101/_/french-civil-code-2016/.

50 Where an IPR holder gives a commitment under Clause 6.1 of the ETSI IPR Policy, the IPR holder is the "promisor"; and ETSI is the "stipulator/ promisee". A person wishing to implement the standard is the "beneficiary". The primary effect of the declaration is to create a contract between the promisor (the IPR holder) and the stipulator (ETSI), the terms of which require the promisor to grant a right (a licence on FRAND terms) to the beneficiaries (the implementers of the standard). According to Judge Briss, ETSI's blank form constitutes an offer, and a properly filled form acts as acceptance, specifying the chosen pre-defined options in line with ETSI's offer. The form explicitly references Clause 6.1 of the ETSI IPR Policy for future contracts, ensuring that such contracts will adhere to FRAND terms. Courts can objectively determine whether terms are FRAND in a given context, making the commitment legally enforceable. Judge Briss also highlighted that the FRAND commitment, sought by ETSI when patentees declare their patents as essential to an ETSI standard, benefits third parties. As a result, the "stipulation pour autrui" doctrine makes the FRAND commitment enforceable by third parties. See: [2017] EWHC 711 (Pat). Paras. 134-140. Available at: https://www.judiciary.uk/wp-content/uploads/2017/04/unwired-planet-v-huawei-20170405.pdf.

51 ANNEX 6: Intellectual Property Rights, ETSI Intellectual Property Rights Policy.

the common intent of the ETSI members at the time of adopting the policy back in 1994 appears to be challenging.[52] For example, in 2017, Rosenbrock, the former Director-General of ETSI, stated that the common intention was a general commitment to license any SEP user whether component maker or end-product manufacturer. He argued that this view is aligned with ETSI's objective of making ETSI standards available to members and other stakeholders.[53] But another former member of the ETIS IPR committee, Huber, countered Rosenbrock's argument by suggesting that the common intention of ETSI policy drafters was based on the prevailing industry practice of granting licences to end-product manufacturers.[54] This shows well how attempts to reveal the then-common intent of the ETSI members fails.

53 The last attempt in this direction would be to determine the interpretation of a *reasonable person*. Such person should have adequate knowledge of the telecommunications industry in the 1990s allowing him to interpret the term *equipment* in the context of the ETSI IPR policy. This approach leads to an impasse too as there is no consensus over the common industry practices in the ETSI.[55] Therefore, wording of ETSI does not limit the beneficiaries of the licence, nor limits the SEP holders' freedom in choosing their licensees in a supply chain.

3. Discussion on SDOs' Role

54 With the rise of IoT and the increasing use of ETSI connectivity standards in various sectors, an official policy clarification from ETSI can help determine if the SEP holder under the ETSI FRAND commitment is obliged to licence component makers.

55 For example, the IEEE's revised patent policy in 2015 resolves this ambiguity for their standard users. Under the IEEE revised policy, the FRAND commitment explicitly states that the licensor must provide an unrestricted licence to an unlimited number of applicants including component makers for essential patent claims. This licence allows the licensees to make, use, sell, offer to sell, or import any compliant implementation conforming to the IEEE standard. A *Compliant Implementation* refers to any product or service that adheres to any mandatory or optional part of an IEEE standard, including *components.*[56] Thus, the SEP holder who made the FRAND commitment at IEEE cannot decline to license its patents to component manufacturers when they request.[57]

56 ETSI, in contrast, does not provide an official policy clarification regarding this issue. As a result, the ambiguity surrounding ETSI's licensing policies allows for more clashes in the literature. Borghetti et al. refer to an ETSI Director General's speech[58] expressing that "*specific licensing terms and negotiations*

52 The absence of a shared understanding among the drafters at the time has reflected in the policy's voting base as it was determined by a majority vote rather than by a consensus.

53 Rosenbrock (n 42) 3-4.

54 Huber (n 42). He explains the history and reasoning for his view that the obligation to license under the ETSI IPR Policy, once a commitment is given to license at fair, reasonable, and non-discriminatory (FRAND pp. 4-5 and 8). Huber also argues that an IPR Policy mandating that SEP owners grant licenses to component markets would be legally and practically unworkable, in that (a) it would be impossible to grant the same license to the same technology to companies operating at different levels by reason of patent exhaustion; (b) such a system would be inefficient and unfair, and would make it hard to account for the full economic value that the patented technology confers on the end-product; and (c) such a system would hinder the ability of IPR holders to fully obtain the benefits of the "reciprocity" condition in the ETSI IPR Policy.

55 While Huber argues that at the time the ETSI IPR Policy was adopted, the prevailing industry practice was to license at the device level, and Becker et al. at p. 230 and Borghetti et al. at p. 30 share the same view arguing that whole-device licensing is an efficient and universally accepted norm in the cellular communications industry; Rosenbrock refer to the examples of Qualcomm and Ericsson granting licenses at the chipset level, arguing that the description of end-product licensing as the prevailing industry practice is not correct nor consistent with the author's own experience of discussions in ETSI.

56 See: § 6 IEEE-SA Standards Board Bylaws.

57 According to the Clause 6 of the IEEE Standards Board Bylaws, an Accepted Letter of Assurance is intended to be binding upon any and all assignees and transferees of any Essential Patent Claim covered by such LOA.

58 Borghetti, Nikolic and Petit (n 38) 24.

are commercial matters between the companies and shall not be addressed within ETSI".[59] Meanwhile, Huber,[60] referring to ETSI's General Assembly meeting, reports that ETSI's Director of Legal Affairs states that ETSI's IPR policy does not require essential patent owners to grant licences at the "smallest saleable unit", leading some to argue that ETSI is clearly refusing the requirement to license to component suppliers.[61] On the other hand, Geradin and Katsifis argue that ETSI aims to balance the interests of IPR owners and standardisation requirements through FRAND licences. This aim is attained only through a direct licence to component makers, the ETSI policy does not consider *access* as distinct from licensing, and its alternatives (including have- made right) may not provide legal certainty or support the objective of ETSI Policy.[62]

57 In summary, the ETSI IPR policy being vague, it opens the door for contradictory interpretations. In our view, a clear policy such as that of the IEEE, even if it may be criticised,[63] is better than a vague one.

III. Competition Law

58 In this section, we explore whether SEP holders are obliged under the EU competition law to grant a licence to component suppliers rather than to end-product manufacturers. Our goal is to determine if Nokia's refusal to grant licences to Daimler's suppliers can be deemed an abuse under Article 102 TFEU.

59 There is currently no formal view or decision from the ECJ nor the EU Commission regarding FRAND licencing in multi-tier value chains, and in fact, it was just in the *Daimler* case that the Düsseldorf court asked the ECJ for a preliminary ruling on the level of licensing and any obligation to prioritise licenses for suppliers.[64] However, the case got settled following the parties' agreement before the ECJ's ruling.[65] We then analyse this question under the most recent ruling of the ECJ on the SEPs: the *Huawei* case,[66] where *indispensability condition* and *legitimate expectation* were addressed. In this context, the question we will try to examine is whether the *Huawei* doctrine could apply to the *Daimler* context. This subject has been already tried by some scholars.[67] Nevertheless, our contribution addresses the problem from novel perspectives that can enhance the literature particularly in the sections of legitimate expectation and licence denial as an exclusionary abuse. Additionally, we examine this question under the non-discrimination principle, and explore any potential guidance that can be provided by the Commission Horizontal Guidelines.

1. Huawei Doctrine

60 Freedom to deal or not to deal is a foundation of freedom of trade. Companies are free to choose with whom they want to do business and to dispose of their property including IPR.[68] These freedoms as fundamental rights are guaranteed by the EU Charter of Fundamental Rights.[69] As a matter of fact, the exercise of a statutory right cannot constitute

59 Sophia Antipolis, 'ETSI's Director General Issues Public Statement on IPR Policy' (2018) <https://www.etsi.org/newsroom/news/1458-etsi-s-director-general-issues-public-statement-on-ipr-policy>.

60 Huber (n 42) p. 6.

61 ETSI/GA(15)65_030r2, ETSI, 'Draft Minutes from the ETSI General Assembly' <https://portal.etsi.org/ngppapp/ContributionSearchForm.aspx?tbid=&SubTB=&Param=&MeetingId=15538>.

62 Geradin and Katsifis (n 37) pp. 25-26.

63 See some critics regarding the revised IEEE Policy: 'Will IEEE Finally Admit the Errors of Its 2015 Patent Policy Changes?' (*IP Europe*, 2021) <https://ipeurope.org/blog/will-ieee-finally-admit-the-errors-of-its-2015-patent-policy-changes/>; Keith Mallinson, 'Development of Innovative New Standards Jeopardised by IEEE Patent Policy' [2017] 4iP Council <https://www.4ipcouncil.com/application/files/6015/0479/2147/Mallinson_IEEE_LOA_report.pdf>.

64 *Nokia vs. Daimler*, Preliminary Ruling. (n 1).

65 ECLI:EU:C:2021:575. See (n 1).

66 Case C-170/13 *Huawei Technologies Co. Ltd vs. ZTE Corp.*, EU:C:2015:477. (hereinafter: *Huawei*)

67 See for e.g., Borghetti, Nikolic and Petit (n 38) pp. 6-11 and pp. 35-40

68 Opinion of AG Jacobs in Case C-7/97 *Oscar Bronner GmbH & Co. KG vs. Mediaprint*, EU:C:1998:264. Para. 56.

69 Charter of Fundamental Rights of the European Union, OJ C 326, 26.10.2012. p. 391-407. Article 16 and 17.

an abuse of a dominant position.[70] In this context, the SEP holder is free to choose his business partner to grant a FRAND licence. However, according to settled case law,[71] the exercise of a statutory right may, in *exceptional circumstances*, involve abusive conduct for the purposes of Article 102 TFEU. In *Volvo*, *Magill*, *IMS Health*, and *Microsoft* the court had established conditions for identifying exceptional circumstances where a *refusal* to deal would be deemed abusive.[72] This subject was then discussed by the ECJ in 2015 specifically in the context of SEP. The ECJ in fact, established a shortcut analysis for identifying exceptional circumstances in the SEP context where refusal to license could be considered abusive. Thanks to the *Huawei* ruling, it is no longer necessary to scrutinise all the conditions outlined in *Volvo*, *Magill*, *IMS Health*, and *Microsoft*. Instead, the Court in *Huawei* ruled that a SEP is *indispensable* to the manufacturer of a standard-compliant product, and, in addition, the FRAND commitment creates *legitimate expectations* for every SEP implementer.[73]

61 Therefore, in our analysis of *Daimler* under the *Huawei* doctrine, we will demonstrate how the conditions of indispensability and legitimate expectations can be applied concerning the refusal to grant licenses to component manufacturers. However, as we will discuss later, the *Huawei* conditions are necessary but not sufficient, and therefor, an additional step is required to assess if the denial of licence could be an abusive practice in the case of *Daimler*. Ultimately, we will propose a policy change that imposes an obligation to grant licence to component manufacturers.

a.) Indispensability Condition

62 There is no distinction between the indispensability of SEPs at the component level and at the end-product level. SEPs are equally essential to component manufacturers for producing and selling components as they are to end-product manufacturers for integrating the component into their final product and selling it.[74] The ECJ in the *Huawei* case emphasised that the user of an IPR, "*if he is not the proprietor, is required to obtain a licence prior to any use*".[75] Without a licence, the SEP users will be under the constant threat of an infringement claim, an injunction, or the recall of products from the market. As component makers cannot operate *lawfully* without a licence, this makes the use of SEP indispensable to every SEP implementer including component maker. Thus, the indispensability condition is undoubtedly fulfilled in *Daimler*.

b.) Principle of Legitimate Expectations

63 The ECJ in *Huawei* ruled that commitment to grant licence on FRAND terms creates legitimate expectations on the part of third parties that the SEP holder will in fact grant licences on such terms.[76] Given that the principle of legitimate expectations has been always referred to in cases where one party is a public authority,[77] we need to examine if based on the *Huawei* judgement such an expectation could be

70 *Huawei* judgement. (n 66) para. 38.

71 Judgment of the Court of 5 October 1988, *AB Volvo vs. Erik Veng* (UK) Ltd, Case 238/87, ECLI:EU:C:1988:477 (hereinafter: *Volvo*);Judgment of the Court of 6 April 1995, *Radio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP) vs. Commission of the European Communities,* joined cases C-241/91 P and C-242/91 P, ECLI:EU:C:1995:98 (hereinafter: *Magill*); and Judgment of the Court (Fifth Chamber) of 29 April 2004, IMS *Health GmbH & Co. OHG vs. NDC Health GmbH & Co. KG*, C-418/01, ECLI:EU:C:2004:257 (hereinafter: *IMS Health*); Judgment of the Court of First Instance (Grand Chamber) of 17 September 2007.*Microsoft Corp. vs. Commission of the European Communities,* T-201/04, ECLI:EU:T:2007:289 (hereinafter: *Microsoft*).

72 While these conditions are challenging to categorise, generally, it was determined that a dominant company's refusal to supply could be considered abusive if: 1-The product or service in question is indispensable to operate in the relevant market; 2-There is no viable alternative to the product or service; 3-The refusal is likely to eliminate all competition in the relevant market; 4-The refusal would eliminate all competition in the market for the new product; 5-The refusal to license IPRs prevents the appearance of a new product for which there is a potential consumer demand; 6-The refusal to license is not objectively justified .

73 *Huawei* judgement (n 66) para. 49 and 53.

74 Renato Nazzini, 'Level Discrimination and FRAND Commitments under EU Competition Law' (2017) 40 World Competition 213. Pp. 229-230.

75 *Huawei* judgement (n 66) para. 58.

76 *Huawei* judgement (n 66) para. 53.

77 Borghetti, Nikolic and Petit (n 40) pp. 6-7.

still proved legitimate when the parties involved are private entities. What can help us in this direction is that the ECJ in *Huawei* expressed legitimate expectations without any reference to the previous cases. If we can believe that it was intentional, it can certainly represent a new application for this principle between the private entities.

64 Borghetti *et al.* do not believe in such an intention.[78] They argue that according to the EU settled case law (i.e., those actually were not referred to by the ECJ in the *Huawei* case), the principle of legitimate expectation as a general principle of EU law[79] is limited to the sectors where the EU exerts a significant degree of regulatory control to protect economic agents against the State,[80] and even in those cases, the principle has been rarely invoked successfully.[81]

65 In addition, they argue that this principle could have been established if the basis for the expectation had been adequately *specific* and *precise*.[82] For them, any expectation of third party should be assessed based on the SDOs' IPR policy and the specific FRAND commitment thereof. For example, if a SDO in its policy states that FRAND means royalty-free or pricing based on the Smallest Saleable Patent Practicing Unit (SSPPU), then any licensing offer deviating from these terms could disappoint a potential licensee that expects a licensing based on those terms.[83] But if the SDO's policy does not require any specific licensing condition, as it is the case in ETSI's policy, a FRAND commitment cannot be regarded as a *reliable source*[84] to create legitimate expectation.[85]

66 Against Borghetti et al., we consider SDOs, their IPR policies, and FRAND commitment thereof as reliable sources that serve as a basis for members to determine how to develop standards.[86] We also distinguish a mere expectation to obtain a licence from the expectation to obtain it on specific FRAND terms. We believe that what the ECJ ruling safeguards in *Huawei* is the former, and for that end the Court set a detailed framework to guarantee access to licence for any willing licensee. In other words, obtaining a FRAND licence is a legitimate expectation of SEP implementer, but the specific terms of such a licence can be established later through parties' negotiations or by third parties.[87]

78 They argue that reference to the protection of legitimate expectations in a private setting in Huawei is decorative, but not dispositive. Ibid pp. 6-8.

79 They refer to the *Schenker & Co and Others*, C-681/11, ECLI:EU:C:2013:404, which concerned the legal advice of a lawyer arguing that previous cases refuse the idea that the private entities can create legitimate expectations *vis-a-vis* other private entities. Ibid. Pp. 10 and 38.

80 Eleanor Sharpston, 'European Community Law And The Doctrine Of Legitimate Expectations : How Legitimate , And For Whom?' (1990) 11 Northwestern Journal of International Law & Business 87 <https://scholarlycommons.law.northwestern.edu/cgi/viewcontent.cgi?article=1312&context=njilb>. P. 90.

81 Borghetti, Nikolic and Petit (n 38) p. 7.

82 *Ibid*. P. 9. They refer to the case *Citymo vs. Commission* (T-271/04, EU:T:2007:128, §138), where the General Court stated that only "*precise, unconditional and consistent information*" can lead third parties to entertain legitimate expectations.

83 *Ibid*. P. 10.

84 In the *Branco vs. Commission* case, the Court ruled that three conditions must be satisfied in order to claim entitlement to the protection of legitimate expectations: "*precise, unconditional and consistent assurances originating from authorized and reliable sources*" must have been given to the person claiming to have a legitimate expectation, which "*give rise to a legitimate expectation on the part of the person to whom they are addressed*". Case T-347/03 *Branco vs. Commission*, ECLI:EU:T:2005:265. Para. 102.

85 Borghetti, Nikolic and Petit (n 38) p. 10. For the opposite view, see Geradin and Katsifis (n 37) p. 33.

86 Borghetti et al., argue that previous cases within the realm of competition law appeared to reject the notion that private entities could establish legitimate expectations in relation to other private organisations. They refer to the Court ruling in *Schenker* (*supra fn.* 101) where it stated that "*legal advice given by a lawyer cannot, in any event, form the basis of a legitimate expectation on the part of an undertaking that its conduct does not infringe Article 101 TFEU or will not give rise to the imposition of a fine*". Nonetheless, we disagree with this comparison and share the idea of Geradin and Katsifis emphasising the fact that any comparison between a legal advice provided by a lawyer to a client and the FRAND commitment made by members of a SDO is not accurate. The FRAND commitment serves as a basis for members to determine how to develop the standard and cannot be equated with individual legal advice given by a lawyer to a client. See: Geradin and Katsifis (n 37) pp. 33-34.

87 We believe that this is what the ECJ ruled and not an expectation about a detailed FRAND licence. That is why,

67 We believe that in *Huawei* the ECJ dispositively applied the principle of legitimate expectation to a case involving two private entities,[88] as the Court did explicitly refer to it twice which cannot be interpreted *decorative* at all:[89]

> "53 In those circumstances, and having regard to the fact that an undertaking to grant licences on FRAND terms creates legitimate expectations on the part of third parties that the proprietor of the SEP will in fact grant licences on such terms, a refusal by the proprietor of the SEP to grant a licence on those terms may, in principle, constitute an abuse within the meaning of Article 102 TFEU.
>
> 54 It follows that, having regard to the legitimate expectations created, the abusive nature of such a refusal may, in principle, be raised in defence to actions for a prohibitory injunction or for the recall of products. However, under Article 102 TFEU, the proprietor of the patent is obliged only to grant a licence on FRAND terms. In the case in the main proceedings, the parties are not in agreement as to what is required by FRAND terms in the circumstances of that case."

68 In addition, this application seems not bizarre nor unprecedented. The Commission also referred to this principle in the *Rambus*[90] and the *Motorola* cases,[91] where the EC stated that given the standardisation process resulted in the GPRS standard, and Motorola's voluntary commitment to license the Cudak SEP on FRAND terms, those implementing the GPRS standard have a legitimate expectation that Motorola offers them a licence for that SEP, as long as they are willing to agree to FRAND terms and conditions.

69 Furthermore, to ensure effective access to the standard, the Commission in the revised Horizontal Guidelines refers to the legitimate expectations of the standard implementers laid out in *Huawei* and *Motorola.*[92]

70 Based on the *Huawei* ruling, we believe that FRAND commitment creates two legitimate expectations.[93] First, the SEP holder's FRAND commitment creates *substantive* legitimate expectations for potential licensees, who anticipate obtaining a licence on FRAND terms. If the SEP holder, then refuses to

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the Court ruled that if parties cannot reach an agreement on FRAND terms, third parties may intervene. The ruling mandates SEP holders to provide a written offer for a FRAND licence, and potential licensees to respond to that offer in good faith. If the parties cannot come to an agreement, they may seek the intervention of a court or an arbitration panel to determine the specific FRAND terms.

88 Just because there has not been any prior case law on legitimate expectation in the private sector does not mean that there could or should not be. Case law is established as a result of factual circumstances and not vice versa.

89 Borghetti, Nikolic and Petit (n 38) at p. 8 argue that the protection of legitimate expectations in a private setting in *Huawei* is decorative, but not dispositive.

90 *Rambus* [2010] OJ L30/14. [hereinafter: *Rambus*]. Para. 38.

91 The Commission in para. 417 of the Motorola states that "In view of the standardisation process that led to the adoption of the GPRS standard and Motorola's voluntary commitment to license the Cudak SEP on FRAND terms and conditions, implementers of the GPRS standard have a legitimate expectation that Motorola will grant them a licence over that SEP, provided they are not unwilling to enter into a licence on FRAND terms and conditions"; in para 521 also states that: "Apple and other manufacturers of GPRS-compliant products that are not unwilling to enter into a licence on FRAND terms and conditions should therefore be able to rely on the legitimate expectation that Motorola will honour its commitment to license the Cudak GPRS SEP on FRAND terms and conditions. The seeking and enforcement of an injunction by Motorola against Apple in Germany on the basis of the Cudak GPRS SEP runs counter to that commitment". Case AT.39985 – Motorola, 29 April 2014, C(2014) 2892 final.[hereinafter: Motorola]

92 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, C/2022/1159, OJ C 164, 19.4.2022, p. 1–121. [hereinafter: revised Horizontal Guidelines 2022]. Para. 482.

93 In the literature there is no agreement whether FRAND has procedural or substantive meaning. Borghetti, Nikolic and Petit (n 38) at p.9, argue that the ECJ does convey a procedural understanding of FRAND and the procedural legitimate expectations. They argue that the FRAND framework is a comity device that creates mutual obligations of fair play between both the patent owner and potential licensees. Lundqvist describes these obligations as "*good governance procedural rules*", which suggests that they promote ethical and transparent practices in patent licensing. Björn Lundqvist, 'The Interface between EU Competition Law and Standard Essential Patents–from Orange-Book-Standard to the Huawei Case' (2015) 11 European Competition Journal 367. P. 389.

license, it can be viewed as a violation of those legitimate expectations, especially when the potential licensee has relied on that expectation when making his business decisions. Secondly, there are *procedural* legitimate expectations for him, as he expects fair negotiations, access to information, and the right to present his case before a neutral third party if a dispute arises. The ECJ has provided a framework for FRAND negotiations to ensure fairness and balance.[94] Failure to meet these expectations may be seen as a violation.

71 In line with us, Geradin and Katsifis claim that as the reference of the ECJ to legitimate expectations on the part of third parties is phrased indiscriminately to the benefit of *any* third party, it could be read as a basis for the proponent of imposing licensing at component maker level.[95]

72 We therefore conclude that component makers have a legitimate expectation to obtain a licence from SEP holders, if they comply with the procedural framework outlined by the Court. With this in mind, we still need to move one step forward and examine whether the refusal to grant licences to component makers could be considered an abuse under Article 102 TFEU. The reason for this further examination lays in the difference between the facts of *Huawei* and *Daimler*. In the case of a vertically integrated SEP holder, as in *Huawei,* the risk of harm per Article 102 TFEU may be evident (exclusion of competing implementers). But how about the *Daimler* context, where the SEP holder is a non-vertically integrated entity, i.e., if it is only active in the licensing of technology and not in the manufacture of end-products at the market at issue? This question, studied below, makes more sense as one may argue that the fulfilment of the conditions mentioned in *Huawei* may be *necessary* but not *sufficient* to justify a competition law duty to license (rather than a contract law duty). If this is the case, contract law would be the right vehicle to address the refusal of the SEP holder in breach of its FRAND commitment.[96]

94 *Huawei* judgment (n 66) para. 55.

95 Geradin and Katsifis (n 37) pp. 32-33.

96 *Idem.*

c.) Licence Denial as an Exclusionary Abuse

73 In *Huawei*, whenever the Court referred to the liability of the SEP holder, it considered him as vertically integrated in the market who could , by refusal to licence, keep the production of the product for himself. In paragraph 52 of *Huawei*, the Court highlighted that by preventing products manufactured by *competitors* from appearing or remaining on the market, the SEP holder can *reserve to himself* the manufacture of the products in question. The Court then concluded that "*in those circumstances*", the conduct may in principle constitute an abuse.[97] Therefore, the refusal to grant a FRAND licence was viewed as an *exclusionary* abuse, thereby a violation of Article 102 TFEU.

74 But in the *Daimler* case, the SEP holder is not vertically integrated in the market. This is worth mentioning because in *Huawei* (*Motorola*[98] and *Samsung,*[99] as well), the possibility of the foreclosure of the market was evident as the dispute occurred between downstream market rivals. In addition, in *Daimler* the conflict stems from the preference of the SEP holder in licensing the end-product manufacturer instead of the suppliers. But in *Huawei*, the Court did not address the issue of level of licensing explicitly, instead, it determined under what circumstances seeking an injunction by an SEP holder under FRAND commitment could be considered abusive within the meaning of Article 102 TFEU.

75 In this section, we examine if the *Huawei* ruling, despite these differences, can still be applied to the level of licensing disputes as in *Daimler*. In other words, we want to know if the fulfilment of the conditions defined in *Huawei* with respect

97 *Huawei* judgment (n 66) para. 53.

98 *Motorola* (n 91). The Commission noted that Motorola is a competitor in the downstream market for mobile telephones that implement relevant telecommunication standards, including GRPS, and competes against other implementers.

99 Case No. AT.39939 Samsung – Enforcement of UMTS Standard Essential Patents, C(2014) 2891 final. (hereinafter: *Samsung*). The Commission took a preliminary view that the conduct under review could potentially exclude Apple, a rival manufacturer of UMTS-compliant mobile devices, from the market.

to indispensability and legitimate expectation is *sufficient* to say that the refusal of a non-vertically integrated SEP holder (like Nokia) to license a component maker will lead to antitrust harm within the meaning of Article 102 TFEU?

76 If Nokia was vertically integrated in the automotive market, its refusal to license the component suppliers would be deemed an abuse, and no future discussion would be required. But it is not.

77 The following discussion shows that it is possible that conduct is an abuse even if the conduct does not reserve the downstream market to the dominant firm, and such an abuse would happen in the form of exclusionary.[100]

78 First, the refusal by a non-vertically integrated SEP holder to license component makers can potentially lead to adverse consequences, including limiting production, markets, and technical development, which ultimately harm consumers. This type of behaviour may be in violation of Article 102(b) TFEU, as it restricts the commercial operations of unlicensed component makers, exposing them to legal and commercial uncertainties, even if they may have certain limited have-made rights.[101]

79 Second, in addition to the abuse of dominant position against competitors, a dominant firm can be found to abuse its position when it restricts the freedom of non-competitors. This concept is well explained by Deringer, who highlights that the objective of competition rules is to safeguard the freedom of choice for market participants and to ensure the unhindered interaction of supply and demand in a competitive environment.[102] The conduct constitutes an abuse when a dominant firm utilises its position to limit or eliminate the freedom of decision-making in competition, whether it be the freedom of competitors or the freedom of choice for consumers.[103] Such actions undermine the fundamental principles of fair competition and hinder market dynamics that lead ultimately to harming the overall welfare of the market.

80 Finally, abuse of dominance can occur when a firm holds a dominant position in one market (Market A) and refuses to license its SEPs to suppliers in another market (Market B). In such cases, the SEP holder, with market power in Market A, may seek higher licensing fees, potentially causing harm in Market B. It is important to note that abusive behaviour need not occur within the market where the SEP holder holds dominance and there is no need to have cause and connection between dominance and effects. Consider the example provided by Monti,[104] where Market A represents a raw material market, and the dominant firm is the sole producer of that raw material. In this scenario, the dominant firm can exert influence on Market B by withholding the raw material supply from downstream firms. This refusal to license may be deemed exclusionary if it hinders supplier access to the market, impedes innovation, or creates entry barriers for potential competitors.

81 Crucially, it is not a requirement for the dominant firm to be active in Market B where the refusal to license takes place. The key consideration is whether the firm's refusal to license its intellectual property or essential inputs in Market A, where it is dominant,

100 In contrast, Nazzini argues that since no competitors of the dominant SEP holder are foreclosed in Daimler context, the abuse is not exclusionary but exploitative. Renato Nazzini, *The Foundations of European Union Competition Law The Objective and Principles of Article 102* (Oxford OUP 2011). Pp. 231-234.

101 The Court in *Höfner and Elser* stated that Article 102(b) was breached because the dominant undertaking was unable to satisfy the existing demand. (See: Case No. C-41/90 *Klaus Höfner and Fritz Elser vs. Macrotron GmbH* [1991] ECR I-1979). In the case of level discrimination, the SEP holder may be considered unwilling to satisfy existing demand. Article 102 TFEU does not require proof of actual effects of anti-competitive behaviour, only proof of potential effects in the relevant legal and economic context. Therefore, it is not necessary for the conduct under review to have caused a restriction of output, but only to have the likely effect of causing such a restriction. This reasoning can be extended to the Daimler context, where component manufacturers could not legally manufacture and sell standard-compliant components without a license. Although overall output may not be affected by the practice in each case, the restriction on output is likely to occur.

102 Arved Deringer, *The Competition Law of the European Economic Community* (New York (osv) : Commerce Clearing House 1968). Pp. 166-167.

103 *Idem*.

104 Giorgio Monti, *EC Competition Law* (2007). Pp. 186-192.

has an anti-competitive impact in Market B.[105]

82 In the context of *Daimler*, the SEP holder is not extending dominance into another market but is rather seeking maximum royalties by licensing to Daimler at end-product royalty rates. Moreover, by refusing to license to component makers, the SEP holder prevents them from successfully entering another market and developing potentially beneficial products. This behaviour harms competition, and the market suffers as component makers are unable to harness their innovation potential. Such conduct is considered exclusionary abuse.

83 In line with the argument discussed above, the Düsseldorf court in *Daimler* noted that when component makers have their own licences, they may develop and produce a component on their own and sell to their preferred downstream customers. Moreover, if component makers rely on derived rights, such as have-made rights obtained from the licensed end-product manufacturer, they are limited to selling only to that specific OEM and cannot trade their components in the open market. This constraint prevents them from independently innovating and developing their products, which can have a negative impact on consumers.[106] In such cases, a refusal by the SEP holder to grant an independent licence to component makers may impede competition, potentially triggering a duty to deal under Article 102 TFEU. This is particularly relevant considering that component makers have the potential to further advance the patented technology for new applications and explore untapped markets beyond a specific sector.

84 In conclusion, building upon the landmark judgment of the *Huawei* case by the ECJ, we contend that the refusal of a SEP holder to grant licences to component makers could be considered an abuse of dominant position. This applies not only when the refusal has the potential to exclude competitors downstream, but also when it obstructs technological advancement and innovation, ultimately harming consumers. An example of this is the limitations faced by unlicensed component makers in their commercial activities.

d.) Policy Change Suggestion

85 Based on the provided discussion, we can suggest a policy change in the EU on imposing SEP holders under FRAND commitment to license component makers. Such a change could be relevant for four reasons. First, there is no hard-and-fast rule that requires the dominant undertaking to be vertically integrated and in competition with potential licensees in downstream market for abuse withing the meaning of Article 102 TFEU. Second, while it is true that most cases of refusal to license under Article 102 TFEU have involved vertically integrated firms, the EU courts have not definitively stated that a non-vertically integrated firm can never be subject to exclusionary abuse. Third, the circumstances that led to the imposition of a duty to license in *Huawei* also apply to non-vertically integrated undertakings as indispensability condition is met because the SEP is equally necessary for all who want to manufacture and sell standard-compliant products regardless of whether or not the SEP holder is vertically integrated. In addition, the condition of legitimate expectation is also satisfied because FRAND commitment creates a legitimate expectation that the SEP holder will license the SEP on FRAND terms to all entities that require it to manufacture and sell standard-compliant products. And lastly, imposing a duty to license to component makers would not have a detrimental effect on the SEP holder's incentives to innovate because they have already decided to exploit their patent by granting FRAND licences.[107]

86 Such duty to license to component makers would be more crucial in two following scenarios:

87 The first case is when the suppliers need the SEPs to develop patented technology for a new usage that goes beyond a particular sector, opening a new market. In this scenario, a licence request from the component makers should not be refused. That said, one may wonder what the role of these suppliers in the supply chain at issue would be. Are they indeed suppliers for the standards-compliant product in

105 *Idem.*

106 Düsseldorf judgment (n 1).

107 Nazzini (n 74) pp. 234-235.

question, or independent persons as they want to develop a new product/component?

88 There should be a distinction between component makers who are part of the chain, and those who are independent makers of a product. In the latter case, the independent makers should prove that they do not intend to duplicate goods already offered on the market. Instead, they want to produce new goods or services for which there is a potential consumer demand, therefore, they are entitled to a licence because they are no longer component suppliers, but in fact producers.

89 The second scenario involves a situation where the SEP holder insists on licensing to end-product manufacturer while arguing that have-made right would safeguard component suppliers, but the conditions of have-made right could not be fulfilled, i.e., the end-product manufacturer could not design the component himself. Therefore, if end-product manufacturer claims that the standard-compliant component was designed by his suppliers and not by himself, then the SEP holder cannot benefit from the arguments for have-made rights in convincing the end-product manufacturer to take a licence. In such a situation, the SEP holder must license component suppliers instead of end-product manufacturer.[108]

2. Non-Discrimination Principle

90 The general principle of non-discrimination under EU Law could be relevant to our study as it argues that by refusing to license, the SEP holder makes a discriminatory choice based on his position in the supply chain. This could be an alternative approach to determine if a refusal to license a component manufacturer is an abuse of dominance. In terms of value chain, the key question is whether refusing licenses to component makers, while granting them to end-product manufacturer, constitutes different treatment of equivalent transactions with other trading parties under Article 102(c) TFEU, ultimately putting them at a competitive disadvantage. It is worth mentioning that the non-discrimination (ND) prong of FRAND commitment and non-discrimination principle are usually discussed together in the literature, however, as the ND prong does not address licensing level but royalty base, it will be discussed in the next section.

a.) Equivalent Transaction

91 To determine whether a dominant company has engaged in discriminatory behaviour under Article 102(c) TFEU, it must be shown that the company has placed some of its trading partners at a competitive disadvantage on a relevant market where they compete.[109] The following elements must also be present: equivalent transactions, dissimilar conditions, and competitive disadvantage.[110] If these elements are established, it is up to the dominant undertaking to provide evidence that their conduct

108 When considering the application of Article 102 TFEU, it is important to keep in mind two key factors. Firstly, this article only applies to undertakings that have a dominant position in the relevant market(s). Therefore, any analysis under Article 102 TFEU must begin with determining whether the company in question holds such a position. Secondly, even if a refusal to license is found to constitute an abuse that restricts competition, the dominant undertaking can attempt to show that its conduct is objectively justified. The dominant undertaking must bear the burden of substantiating an objective justification for their conduct. In the case of a refusal to license to component makers, such conduct may be justified if it is either objectively necessary or produces efficiencies that outweigh the restrictive effects on consumers. The Guidance Paper outlines four requirements that a company must meet to justify abusive conduct that forecloses its rivals. Firstly, the conduct must lead to efficiencies, which are not limited to economic considerations such as price or cost but can also include technical improvements in the quality of the goods. Secondly, the conduct must be essential for realising these efficiencies. Thirdly, the efficiencies must outweigh the negative effects on competition. Fourthly, the conduct must not eliminate effective competition by removing all or most existing sources of actual or potential competition. See Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, OJ C 45, 24.2.2009, p. 7–20. Para 30.

109 Judgment of 19 April 2018, *MEO vs. Autoridade da Concorrência*, C-525/16, EU:C:2018:270. [hereinafter: *MEO*]. Para. 23.

110 The ECJ in the *United Brands* case clarified that the scope of Article 102(c) is limited to situations where a dominant undertaking engages in transactions equivalent to those with its customers. Case 27/76, United *Brands Company and United Brands Continentaal BV vs. Commission* (1978) ECLI:EU:C:1978:22. [hereinafter: *United Brands*]

is objectively justified.[111] This type of discrimination is the only one prohibited under Article 102(c) TFEU and is known as market-distorting discrimination, as its anti-competitive effect immediately distorts downstream or upstream competition.[112]

92 In our context, the first two elements are not present: The practice of licensing only end-product manufacturers would not consist in the application of dissimilar conditions to equivalent transactions as transactions with component makers are not equivalent to transactions with end-product manufacturers and additionally, component makers are not in a competitive relationship with end-product manufacturers. Therefore, the practice could not cause competitive distortions between suppliers or customers of the SEP holder.

93 With regard to the competitive disadvantages, the following analysis is crucial for applying subparagraph (c) of the Article 102 TFEU: it must be shown not only that the behaviour of an undertaking in a dominant market position is *discriminatory*, but also that it tends to *distort* that competitive relationship that hinders the competitive position of some of the business partners of that undertaking in relation to the others. The ECJ has elaborated the subparagraph (c) of the Article 102 TFEU in *MEO* case. Though it is related to price discrimination, it could be inspiring for our analysis. In *MEO*, The Court ruled that the concept of competitive disadvantage must be interpreted to the effect that where a dominant undertaking applies discriminatory prices to trade partners on the downstream market, it covers a situation in which that behaviour is capable of distorting competition between those trade partners.[113] Competitive disadvantage presupposes a distortion of competition between two undertakings which are competitors, *at least potentially*. The anti-competitive effect under Article 102(c) must flow from discrimination, but the discrimination must be proved to cause competitive distortions upstream or downstream. The competitive harm is the negative effect of discrimination on the productive and dynamic efficiency of the suppliers or customers of the dominant undertaking.[114]

94 This ultimately means that Article 102(c) cannot establish a duty of the SEP holder to license component manufacturers if the SEP holder is licensing only end-product manufacturer. This is because transactions with component makers are not equivalent to transactions with end-product manufacturers, and component makers are not in a competitive relationship with end-product manufacturers. However, under Article 102(c), the SEP holder may be obligated to grant licenses to all competing component makers once he has licensed one of them.[115]

95 By the same token, Mannheim court in *Daimler* ruled that there was no indication that Nokia was distorting competition between trading partners by imposing discriminatory conditions in the selection of the contracting partner or requiring the royalty be based on the last stage of the value chain.[116] Specifically, the court found that there was no risk of Daimler being placed at a competitive disadvantage compared to other car manufacturers, nor was there any risk of Daimler being unable to switch to other licensed suppliers for LTE connectivity in vehicles, possibly on more favourable terms. Thus, the existing supplier chain would not be affected by the SEP holder licensing practice.[117]

96 Overall, the provided discussions bring out that the rules on discrimination under Article 102 (c) TFEU do not solve the puzzle of licensing level in value chain.

3. Horizontal Guidelines

97 The bottom line from the two previous analyses revealed that unlike non-discrimination under Article 102 (c) TFEU, the *Huawei* doctrine could be applied in determining licensing level in the

111 *Ibid*. Paras. 24-27 and 37.

112 *Idem*.

113 *MEO* (n 109) para. 37.

114 Nazzini (n 74) p. 250-255.

115 However, this obligation is subject to considering relevant factors that differentiate the position of one licensee from another.

116 Mannheim judgment (n 1) 64.

117 *Idem*.

sense that it could impose a duty to license to component makers. To complete our competition law investigation, in the following section we study the EU Commission Guidelines on the applicability of Article 101 of the TFEU to horizontal cooperation agreements[118] to see whether in these guidelines and their new version of 2022, there is an indication to show that the Commission may also expect the SEP holder to grant a licence to component makers.

98 From the standpoint of the scope of the Horizontal Guidelines (HGs) there is doubt whether they can cover vertical licensing agreements between SEP holders and (non-competing) implementers. In addition, the Horizontal Guidelines are to provide a safe harbour for the SDOs, and in the standardisation agreements section seek to promote SSOs' IPR policies compliant with Article 101 TFEU. The Horizontal Guidelines do not propose an antitrust obligation. Their function is to provide a safe harbour that specifies which competitors' agreements can be deemed presumptively lawful.[119] Hence, outside of this safe harbour, there is no antitrust presumption of liability. However, in the literature, mostly the proponent of licencing to all including component makers refer to paragraph 285[120] which states that: "*[i]n order to ensure effective access to the standard, the IPR policy would need to require participants wishing to have their IPR included in the standard to provide an irrevocable commitment in writing to offer to license their essential IPR to all third parties on fair, reasonable and non-discriminatory terms…",* arguing that licence to all third parties is clear enough to envisage an obligation for SEP holders to licence to component makers. On the other hand, the proponents of access to all argue that the term "all third parties" is not further defined and full implementation of standard could be only happened at end-product level. They also argue that what is important for the Commission is accessibility of a standard to the users of that standard and accessibility does not exclusively mean a licence.[121]

99 With regard to the "access" or "licence",[122] while some believe that what legally matters is access, some other deplete access from any legal meaning and make arguments for licence.[123] The former argue that in the Guidelines the prevention of *effective access* to the standard is crucial; standardisation agreements should provide *access* to standardised technology; and that FRAND commitment is made to guarantee *effective access* to standards.[124] The latter, however, highlight that this distinction between access and licence is meaningless and effective accessibility does not occur but through licence.[125]

118 European Commission, Guidelines on the applicability of Art. 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements [2011] OJ C11/1. [hereinafter: Horizontal Guidelines].

119 The para. 279 (476 in the revised HGs) states that "*the non-fulfilment of any or all of the principles set out in this section will not lead to any presumption of a restriction of competition within Article 101 TFEU.*".

120 In the revised Horizontal Guidelines 2022 (n 92) para. 482.

121 See the list of both groups (n 42).

122 Legally speaking, a license, has an affirmative defence to a claim of patent infringement. A contract under which the patent holder promises not to assert claims of infringement of its patents against an identified body. A license is a suspension or exemption from the exclusionary right, which the patent holder, in its sole discretion, may grant. It is a common misconception to think of a patent licence as providing the ability to make and sell some product. Agreements of that sort are known as technology transfers and can entail the conveyance of technical information, know-how, documentation, or even physical materials, facilities, and personnel, to enable the transferee to manufacture a particular product or carry out process, for example. A patent licence will often accompany a technology transfer, perhaps in the same contractual document. But it is quite common for parties to enter into patent licences without engaging in any technology transfer, with each promising not to sue the other over patent infringement while each using its own know-how. Because a patent license is not about gaining access to the know-how or the technical capability needed to participate in a commercial endeavour, a licence is not necessarily required for an implementer to carry on its business. Implementers can, and often do, manufacture and sell products that may be patented by others and then they get a licence to legalise their business from patent law perspective. See Layne-Farrar and Stark (n 3).reasonable, and non-discriminatory ("FRAND" Pp. 110-112.

123 Geradin and Katsifis (n 37) p. 4.

124 See for e.g., Borghetti, Nikolic, and Petit (n 39) p. 39; Juan Martinez, 'FRAND as Access to All versus License to All', *Journal of Intellectual Property Law & Practice*, 14.8 (2019), 642–51 <https://doi.org/10.1093/jiplp/jpz075>. P. 646.

125 Geradin and Katsifis (n 37) p. 4.

100 Our examination shows that in the Horizontal Guidelines context, access is applied in two occasions. First, in standardisation agreements under which effective access to the technology should be guaranteed through IPR Policies of SDOs for the relevant *industry*. The Guidelines explain how the IPR policy through good faith disclosure could provide this access.[126] In this context, the access is a goal provided through the SDOs' IPR Policies and in particular different types of disclosure models.[127] Some models may require participants to engage in IPR discourse, while others may only encourage it.

101 The proponent to licence to all including component makers also refer to paragraph 294[128] arguing that where the result of a standard is not at all accessible for all members or third parties, this may foreclose or segment markets and is thereby likely to restrict competition.[129] Likewise, competition is likely to be restricted where the result of a standard is only accessible on discriminatory or excessive terms for members or third parties. However, in the case of several competing standards or in the case of effective competition between the standardised solution and non-standardised solution, a limitation of access may not produce restrictive effects on competition. One however must highlight that this paragraph is also about the Commission assessment of the standardisation agreements at the SDO level, and it is not imposing any obligation for the SEP holders. The Guidelines then state that a clear and balanced IPR policy, adapted to the industry and the needs of the SDO in question, increases the likelihood that the implementers of the standard will be granted effective access to the standards elaborated by that standard development organisation. This is a bridge to the second usage of access where the goal is to provide the standardised technology for its implementers which is fulfilled through FRAND commitment set by the SDOs.

102 Second, the Guidelines state that to ensure effective access to the standard, the IPR policy would need to require participants wishing to have their IPR included in the standard, to provide an irrevocable commitment in writing to offer to license their essential IPR to all third parties on FRAND terms.[130] Accordingly, the first access is at the disclosure level and the addressee is the relevant industry, however, the second access is the ultimate goal of standardisation which is typically attained through licence. One however should not conclude that the effective access is attained only through a licence. As stated earlier, Horizontal Guidelines do not create legal obligations and FRAND obligation is created by the patentees' signature of the SDOs' IPR policies. It is in line with the Guidelines stating that FRAND commitment is designed to ensure that the essential IPR protected technology incorporated in a standard is "accessible to the users" of that standard on FRAND terms and conditions.[131]

103 As concluding remarks, we share the idea that access is a goal while a licence is a legal means to achieve it.[132] What the SEP holder typically committed to the

126 Paragraph 483 provides that: "the IPR policy would need to require good faith disclosure by participants of their IPR that might be essential for the implementation of the standard under development. This is relevant for (i) enabling the industry to make an informed choice of technology to be included in a standard 279 and (ii) assisting in achieving the goal of effective access to the standard. Such a disclosure obligation could be based on reasonable endeavours to identify IPR reading on the potential standard and to update the disclosure as the standard develops. With respect to patents, the IPR disclosure should include at least the patent number or patent application number. If this information is not yet publicly available, then it is also sufficient if the participant declares that it is likely to have IPR claims over a particular technology without identifying specific IPR claims or applications for IPR (so-called blanket disclosure)281. Except for this case, blanket disclosure would be less likely to enable the industry to make an informed choice of technology and to ensure effective access to the standard. Participants should also be encouraged to update their disclosures at the time of adoption of a standard, in particular if there are any changes which may have an impact on the essentiality or validity of their IPRs. Since the risks with regard to effective access are not the same in the case of a standard development organisation with a royalty-free standards policy, IPR disclosure would not be relevant in that context."

127 Revised Horizontal Guidelines 2022 (n 92) para. 492.

128 *Ibid*. Para. 491.

129 Rosenbrock (n 42) pp. 5-6.

130 Revised Horizontal Guidelines 2022 (n 92) para. 482.

131 *Ibid*. Para. 484.

132 Bowman Heiden, Jorge Padilla and Ruud Peters, 'The Value

SDOs is to provide all third parties with an access through a licence. The HGs do not define any specific rule for how licence should be granted to ensure that access, nor impose any duty to license to component manufacturers.[133]

C. Conclusion

104 Connected cars present a distinctive challenge within the realm of SEP licensing due to the integration of TCUs, fostering intricate complexities within their value chains. This multi-tiered structure raises pivotal questions regarding the rightful licensees and the optimal rates for licensing. Traditionally, SEP holders favour directing licenses to end-product manufacturers, often driven by the prospect of attaining greater royalties based on a percentage of the final product's value. Conversely, the end-product manufacturers and their suppliers advocate for licensing to suppliers, advocating for royalties confined to the TCU's price. This precise scenario played out prominently in the legal tussle involving Nokia (the SEP holder), Daimler (the automobile manufacturer), and its supplier before the German courts.

105 When negotiations between the involved parties reach an impasse, recourse to court intervention becomes commonplace to adjudicate the debate over the licensing foundation. These parties often seek authoritative intervention to ascertain the FRAND-compliant offering, whether through competition authorities or courts. The FRAND commitment forms a robust legal groundwork empowering these entities to establish FRAND terms for licenses. It functions as a primary legal impetus for authority or court involvement in these disputes, irrespective of its legal construct.

106 In our study, we initially scrutinized the potential of patent law, FRAND commitments, and competition law to enforce SEP holders to license suppliers in alignment with Daimler's stance. A deep dive into patent law revealed guidance but not an inherent requirement for licensing, as it hinges on specific standards and doctrines. We explored the have-made right concept, contemplating scenarios where the end-product manufacturer serves as the IoT component designer (in this case, the TCU), potentially instructing suppliers to fabricate the TCU component. Yet, this condition often remains unfulfilled in the IoT domain due to the lack of technical prowess, infrastructure, and interest from end-product manufacturers. Despite this, if met, the SEP holder might opt to license the end-product manufacturer, while suppliers could be shielded through the have-made right against patent infringement actions, aligning with Nokia's argument.

107 Furthermore, our examination delved into ETSI's IPR policy and FRAND commitment, uncovering ambiguous wording necessitating interpretation under the French Civil Code, ETSI's governing law. However, conclusive establishment of the ETSI FRAND commitment mandating licensing to component makers remained elusive. Analysing competition law, particularly within the Huawei doctrine section, steered us toward suggesting a policy shift favouring licensing component suppliers.

of Standard Essential Patents and the Level of Licensing' [2020] SSRN Electronic Journal 1. P. 6.

133 It is however worth noting that the new version highlights the possibility of hold-out situation under which the user of the standard, refuses to pay a FRAND royalty fee or uses dilatory strategies We believe that this new consideration is a clear message from the Commission to highlight the two-side objectives of FRAND commitment: a) to prevent SEP holders from making the implementation of a standard difficult by refusing to license or by requesting unfair or unreasonable fees, (hold-up) and b) to allow them to monetise their technologies via FRAND royalties. Therefore, the issue of implementation is better to be determined on a case-by-case and industry-by-industry basis. See: Revised Horizontal Guidelines 2022 (n 92) para. 482.