

Reassessing the Automotive Licensing Negotiation Group (ALNG) Market Definition: Problems in Substitutability and Relevant Markets

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Abstract

This article examines the respective market definition adopted by the German Federal Cartel Office (Bundeskartellamt) and the European Commission concerning the Automotive Licensing Negotiation Group (ALNG). Both authorities, in the specific context of the proposed ALNG set certain conditions for its operation to meet competition concerns. The respective market definition is derived from a substitutability analysis adapted from Joint Purchasing Agreements (JPAs). In addition, it relies on the identification of three relevant markets: 1) general mobile telecommunications standards; 2) automotive-specific standards; and 3) the final product market.

The article argues that this analytical framework is flawed. First, the substitutability approach applicable to JPAs cannot be transposed to the licensing of Standard Essential Patents (SEPs). This is due to the distinct economic and legal characteristics of SEP licensing. Second, the licensing of SEPs is not substitutable across industries. And third, the relevant markets identified by the authorities are inapplicable and inconsistent with the new Technology Transfer Guidelines.

The article concludes that the authority's reasoning relies on a market definition that is disconnected from the realities of SEP licensing. This underscores the importance of a more economically grounded approach in future assessments.

I. Introduction

Many industries benefit from cellular standards like 4G and 5G.¹ These standards define the how networks operate and communicate with each other.² By ensuring interoperability among systems and devices, they enable global connectivity in products and services across industries.

¹ World Intellectual Property Organization (WIPO), *Standard Essential Patents (SEP)*, <https://www.wipo.int/en/web/patents/topics/sep> (last visited December 9, 2025).

² 4iP Council EU AISBL, *What are IoT and Cellular Standards?*, 4iP Council, <https://www.4ipcouncil.com/iot-standards/what-are-iot-and-cellular-standards> (last visited Jan. 29, 2026).

Each generation of cellular standards builds on the previous one while introducing significant improvements in performance and functionality. For example, 5G data transfer can be up to 20 times faster than 4G.³

The economic impact of standards for cellular communication is undeniable.⁴ 5G alone has already generated \$1 trillion in global economic value, and this is expected to rise to approximately \$6.1 trillion by 2030 and \$18.2 trillion by 2035.⁵ Advances in 5G have transformed networks to platforms supportive data-intensive applications, the Internet of Things, edge computing, and artificial intelligence. Consumers also derive substantial benefits from these standards in their daily lives, particularly through smartphones, computers, connected vehicles, and a wide range of other applications.

Such breakthroughs in cellular technology depend on massive research and development (R&D) investments by a handful of innovators that contribute to the development of a standard.⁶ To protect these investments, these technologies are commonly protected by patents. Patents that are indispensable to the implementation of a standard are referred to as Standard Essential Patents (SEPs).

To keep standardized technologies accessible, companies contributing to standards development typically commit to be prepared to grant licenses for SEPs on Fair, Reasonable and Non-Discriminatory (FRAND) terms and conditions. FRAND creates a balance in the innovation ecosystem. It provides implementers access to standardized technologies at reasonable royalties. It also ensures that innovators are fairly and adequately compensated. This, in turn, preserves incentives for ongoing R&D and continued contributions to the standard-development process.

FRAND terms are generally agreed in good faith licensing negotiations between the SEP holder/owner and the SEP implementer. SEP licensing usually relies on bilateral negotiations or

³ Boston Consulting Group, *6G: The Network for the Future of AI and Immersive Connectivity*, February 2026, at 8, <https://web-assets.bcg.com/15/95/eaacdd6544c1b10c74b38a1afcb8/6g-the-network-for-the-future-of-ai-and-immersive-connectivity-report-feb-2026-edit-02-web.pdf>

⁴ *Ibid.* at 10.

⁵ Shashank Modi, Simonas Matulionis, Michael Kleeman, Ernesto Wandeler, John Fleury, Jaison Justin, Heinz T. Bernold & Braden Holstege, *The 6G Network Is the Future of AI*, Bos. Consulting Grp. (Feb. 26, 2026), <https://www.bcg.com/publications/2026/how-6g-networks-will-shape-the-next-era-of-ai>.

⁶ Georgios Effraimidis and Kirti Gupta, *5G standards and the stark divide between innovators and implementers*, IAM, 8, June 2022, at 2, <https://www.4ipcouncil.com/research/5g-standards-and-stark-divide-between-innovators-and-implementers>.

alternative arrangements such as patent pools.⁷ In bilateral negotiations, the SEP owner engages with implementers individually and negotiates licensing terms on a case-by-case basis within the FRAND range.⁸ Patent pools, by contrast, combine portfolios of multiple SEP owners under a single administrator, offering implementers a “one-stop” license that can reduce transaction costs and simplify access.⁹ Both arrangements are common in the industry.

Despite their success, concerns have been raised regarding transparency, pricing, and negotiation dynamics. As a result, the idea of negotiating SEPs licenses through a so-called licensing negotiation group (LNG) emerged in recent years. In 2023 major German automotive companies, Bayerische Motoren Werke Group AG, Mercedes Benz Group AG, Volkswagen AG and ThyssenKrupp AG proposed forming an Automotive Licensing Negotiation Group (“ALNG”). The aim of the ALNG was to enable implementers to negotiate jointly the terms for acquiring SEP licenses. A third party would collectively negotiate the terms with individual patent owners or pool on behalf of the ALNG members. Agreed terms would not be binding but require individual acceptance by each ALNG member.¹⁰

The ALNG members sought informal guidance¹¹ from the German Federal Cartel Office (“FCO”)¹² in 2023 and the European Commission (“EC”) in 2024 on the proposal.¹³ Both authorities concluded that they would “tolerate” the operation of the ALNG under certain conditions.¹⁴ In its analysis, the FCO identified **three relevant markets related to SEP licensing**

⁷ Gustav Brismark, Mattia Fogliacco, Carter Eltzroth, Matteo Sabbatini & Richard Vary, *SEPs, FRAND Licensing and Patent Pools*, les NOUVELLES, Mar. 2023, at 57, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4342975.

⁸ Patrick Cuka & Adanna Onah, *The Automotive Licensing Negotiation Group (ALNG) Proposal: An Attack on European Innovation and SEP Licensing Markets?*, 4iP Council (May 26, 2025), at 10, https://www.4ipcouncil.com/application/files/5917/4842/5636/2025.05.26_ALNG_and_SEPs.pdf.

⁹ Julia Brito & Axel Contreras, *Patent Pools I* (Dec. 2021), at 343, https://www.4ipcouncil.com/application/files/6317/5611/5274/2021.12_Patent_Pools_I_-_Julia_Brito_and_Axel_Contreras.pdf.

¹⁰ Bundeskartellamt, *Vorsitzendenschreiben B4-136/23*, 10 June 2024, at 2-3, https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Others/B4_136_23_Vorsitzendenschreiben.pdf?__blob=publicationFile&v=5, [hereinafter Bundeskartellamt 2024].

¹¹ A non-binding written indication from a competition authority on how competition law may apply to a specific arrangement that presents a novel or unresolved issue. See: European Commission, *Commission Notice on Informal Guidance Relating to Novel or Unresolved Questions Concerning Articles 101 and 102 TFEU (Guidance Letters)*, 2022 O.J. (C 381) 9, [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022XC1004\(02\)](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022XC1004(02)).

¹² Bundeskartellamt 2024.

¹³ European Comm’n, *Informal Guidance on Case AT.40979 (Automotive Licensing Negotiation Group)*, July 9, 2025, https://ec.europa.eu/competition/antitrust/cases1/202536/AT_40979_104.pdf, [hereinafter EC 2025].

¹⁴ Bundeskartellamt 2024, at 3; EC 2025, at 7.

in the context of the ALNG.¹⁵ The EC largely followed the FCO approach.¹⁶ These markets are: 1) the market for the licensing of general mobile telecommunications standards; 2) the (potential) market for the licensing of highly automotive-specific standards; and 3) the end-product market.

As this paper explains, however, the market definition assessment critically fails to reflect real competitive constraints and the practical realities of SEP licensing. As a result, the analysis rests on an unstable footing, as discussed in the Sections below.

II. What is a market definition and why does it matter?

A market definition is a key element in any competition law analysis. It refers to the analytical process used by competition authorities to “identify the actual and potential competitors (...) such as their supply conditions”¹⁷ in any given market. It is based on two dimensions: the characteristics of the product or service, and the geographic supply scope. The output of this assessment is the “**relevant market(s)**”, which is understood as the set of products or services supplied by competing firms within a geographical area.¹⁸ It is at this stage that a competition analysis assesses whether an agreement has positive or negative effects.

Generally, a market analysis is conducted on a case-by-case basis by competition authorities. At the same time, companies rely *ex ante* on analytical tools as guidance to assess competitive risks and ensure their compliance with competition law. A primary tool is the “Market Definition Notice”, issued by the EC that provides the methodological framework for assessing the boundaries of competition between companies.¹⁹ This framework is based on the concept of

¹⁵ Bundeskartellamt 2024, at 2.

¹⁶ EC 2025, at 6–7, paras. 23–27.

¹⁷ European Comm’n, *Commission Adopts Revised Market Definition Notice for Competition Cases* (Feb. 8, 2024), https://ec.europa.eu/commission/presscorner/detail/en/ip_23_6001; European Comm’n, *Commission Notice on the definition of the relevant market for the purposes of Union competition law* (OJ C, C/2024/1645, Feb. 22, 2024), at 4, paras. 6–7, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C_202401645, [hereinafter Market Definition Notice 2024].

¹⁸ European Comm’n, *Definition of Relevant Market* (summary of Commission Notice on the definition of the relevant market for the purposes of Union competition law), EUR-Lex (last updated Oct. 26, 2021), <https://eur-lex.europa.eu/EN/legal-content/summary/definition-of-relevant-market.html>, [hereinafter Summary Market Definition Notice 2021].

¹⁹ Market Definition Notice 2024.

substitutability. In simple terms, substitutability evaluates whether consumers or firms can switch to alternative products or suppliers on the demand or supply side.²⁰

Substitutability is used to define the relevant market in which the compatibility of cooperation agreements with competition law takes place.²¹ This approach is seen in guidance tools issued by authorities, such as the Horizontal Guidelines and the Vertical Guidelines.

However, there was no specific guidelines for the competition law analysis of the relevant market(s) on LNGs or the ALNG at the time of the FCO and EC letters. In consequence, both the FCO and EC relied on the respective guidance on Joint Purchasing Agreements (“JPAs”) laid down in the EC Horizontal Guidelines.²² The Horizontal Guidelines define a 15 percent market-share threshold as a “no-risk safe harbour” for JPAs. This means that below this threshold, such cooperation is presumed unlikely to raise competition concerns.²³

The analysis of substitutability and of the relevant markets conducted by analogy with the approach applied to JPAs raises concerns. As seen in the next section, this is attributable to a) an incorrect substitutability assessment; and b) an incorrect identification of the relevant markets. Interestingly, in September 2025 the EC published the draft Technology Transfer Agreements Guidelines²⁴, which includes a newly introduced section on LNGs. In said draft Guidelines, the Commission explicitly ruled out the application of the principles governing JPAs to LNGs.²⁵

A couple of months later, in April 2026, the EC adopted the revised Guidelines on technology transfer agreements (“TT Guidelines”). In it the EC confirmed two points. First, LNGs are treated as a form of purchasing market. Second, the JPAs assessment does not apply to LNGs. In this respect, the TT Guidelines establish that “the assessment of substitutability focuses on the alternatives available to the licensors of the technology, rather than on the alternatives available to

²⁰ Summary Market Definition Notice 2021.

²¹ European Comm’n, *Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements* (OJ C 259/01, July 21, 2023), at 7, para. 1.1(1), [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52023XC0721\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52023XC0721(01)), [hereinafter Horizontal Guidelines 2023].

²² Bundeskartellamt 2024, at 2; EC 2025, at 5.

²³ Horizontal Guidelines 2023, at 69, para. 339.

²⁴ European Comm’n, *Communication on the Draft Technology Transfer Regulation and Guidelines* (OJ C 2025/5024, Sept. 16, 2025), https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C_202505024, [hereinafter Draft TT Guidelines 2026].

²⁵ Draft TT Guidelines 2026, at 71, para. 299.

the implementers.”²⁶ They further add that “Those alternatives may be analyzed, for example, by examining the technology holders' likely reaction to a small but non-transitory decrease of the price offered for their technologies.”²⁷

Accordingly, from a market definition perspective, the relevant analysis in the LNGs context focuses on the alternatives available to patent owners. However, as the following chapters show, in SEP licensing context, particularly in the ALNG, those alternatives must be assessed within the automotive industry itself. In that sense, alternatives outside that industry do not constrain the ALNG’s ability to depress royalties.

III. Inapplicability of the substitutability approach used for JPAs in the ALNG context

For JPAs, one of the relevant markets is the “purchasing market(s)” where members “jointly negotiate with or purchase from suppliers.”²⁸ In that market, substitutability is assessed from the supply side. In other words, the decisive question is which alternatives are available to suppliers (i.e., SEP owners). These alternatives determine the competitive constraints on the purchasing group (i.e., SEP implementers).²⁹ However, applying this approach to SEP licensing raises serious concerns.

First, the concept of a JPA does not fit the structure of SEP licensing, and the mismatch is particularly evident in the case of the ALNG. JPAs and SEP licensing differ in subject matter, structure, access to the product, and binding legal effect, as illustrated below:

1. JPAs involve collective purchasing, while the ALNG contemplates collective negotiation and, at the same time, individual licensing.
2. JPAs result in binding prices, whereas the ALNG establishes non-binding royalty proposals.

²⁶ European Commission, *Commission updates EU competition rules for technology licensing agreements*, Press Release IP/26/809 (Apr. 16, 2026), https://ec.europa.eu/commission/presscorner/detail/en/ip_26_809, [hereinafter Revised TT Guidelines 2026].

²⁷ Ibid.

²⁸ Horizontal Guidelines 2023, at 58, para. 288.

²⁹ Horizontal Guidelines 2023, at 58, para. 289.

3. In JPAs, buyers obtain goods after paying the agreed price, while in the ALNG, implementers typically use the technology before obtaining a license.

Second, SEP licensing does not fit within the conventional substitutability logic developed for tangible goods in JPAs. This is particularly relevant when considering the substitutability of the underlying “goods”. The subject matter of an SEP license is not readily substitutable in the way ordinary (tangible or intangible) goods are. At the level of the standardized technology itself, no comparable substitute exists. This limits the relevance of a goods-based substitutability analysis in the SEP context. In that sense, the relevant inquiry shifts from the alternatives available to implementers to the availability of alternative implementers to whom SEP owners can license the technology.

Third, as a general rule, competition authorities adopt a single-industry approach, as reflected in the Market Definition Notice of the EC.³⁰ In the present case, however, both authorities assume that standardized technologies licensed in the automotive sector compete in the same way in other industries. This assumption appears in references, such as “licensing market for SEPs for general mobile communications technologies”³¹ and “licensing SEPs not specific to the automotive sector”³² in the informal guidance. It is even more explicit in the EC’s statement that “these technologies comprise several use cases.”³³

This assumption appears fundamentally flawed. By defining a single SEP licensing market across use cases/industries, sectors that fundamentally do not compete with one another are treated as if they are part of the same competitive field. As a result, it is unlikely that market shares thresholds requiring a market impact analysis would be exceeded. Accordingly, the competition law analysis of LNGs/the ALNG rests on a weak foundation.

Moreover, this approach does not reflect how SEP licensing works in reality. The same standardized technology may be used in phones, household appliances or vehicles. SEP licensing programs depend on the economic value that the standardized technology creates for each specific application. Accordingly, licensing programs are structured based on different use cases. Treating

³⁰ Market Definition Notice 2024, at 11, para. 25.

³¹ Bundeskartellamt 2024, at 2.

³² EC 2025, at 6, para. 23.

³³ Ibid.

all use cases as part of a single market therefore creates an artificial level of demand that does not exist.

Significantly, the Market Definition Notice³⁴ recognizes that separate (narrow) markets may need to be defined where distinct customer groups face different conditions of competition.³⁵ This is particularly relevant in cases such as SEP licensing, where licensing conditions differ across industries, respectively use cases.

IV. Inconsistency of the relevant markets defined by the FCO and the EC

As explained above, the authorities identified three relevant markets in the ALNG proposal. Two are upstream (licensing) markets: 1) for general mobile telecommunications standards; and 2) for automotive-specific standards. The third is the downstream market: the final product market.

A. *General mobile telecommunications standards*

With regard to the (licensing) market for general mobile telecommunications standards, the FCO states that for “SEPs for general mobile communications technologies, the combined share of the parties (...) will in any case not exceed the 15 percent thresholds.”³⁶ Similarly, the EC states for “licensing SEPs not specific to the automotive sector, it appears unlikely that (...) exceeds 15% of the total relevant demand”³⁷, reasoning that “these technologies comprise several use cases.”³⁸

Two conclusions follow from these statements. By referring to “general” technologies and to SEPs “not specific to the automotive sector,” both authorities incorrectly define an upstream SEP licensing market as cross-sectoral in scope. Based on this broad characterization, they assume that the standardized technologies affected offer the same value across use cases and industries. **This approach broadens the relevant market in a way that does not reflect market reality.**

Considering that a cross-industry substitution does not reflect licensing realities, the definition of a “general” relevant market for the ALNG requires closer scrutiny. The key question thus becomes: can SEP owners credibly switch to other automotive implementers? Where in the

³⁴ See: paras. 88 et seqq.

³⁵ Market Definition Notice, at 28, paras. 88-89.

³⁶ Bundeskartellamt 2024, at 2.

³⁷ EC 2025, at 6, para. 23.

³⁸ Ibid.

ALNG context, implementers are vehicle manufacturers such as Mercedes-Benz or Volkswagen. In that way, with respect to licenses covering the use of standards in this automotive sector, such switching does not seem to be the case. However, that conclusion ultimately depends on the LNG's share in a properly defined market.

Against that background, the practical relevance of the informal guidance for the ALNG becomes highly questionable. In the ALNG, the competitive effects are industry-specific and directly affect the availability of supplier-side alternatives. This stands in clear contrast to the authorities' assumption that SEP licensing can be assessed on a general, cross-industry basis. The informal guidance assumes that the ALNG may proceed on the basis of "general" SEPs, yet no such relevant market exists in any sense.

B. Automotive-specific standards

We now turn to the second relevant market: automotive-specific standards, referring to "more automotive-specific standards"³⁹ and to "licensing SEPs that are related to automotive-specific technology."⁴⁰ Here, it seems like both authorities anticipate a '(more) automotive-specific' SEP licensing market.

In defining this market, the criterium seems to be whether a given standard or technology is created or used solely for automotive applications. This technical-focused approach appears inconsistent with existing licensing practices, which rely on the economic value of the patented standardized technology in the specific implementation context.

In general terms, focusing on solely on technical merits can pose a number of questions with respect to the definition of relevant markets: Is exclusive use in vehicles required or is it enough if the standard is used predominantly in vehicles? What if the same standard can technically also be implemented in smartphones, tablets or other connected devices? On purely technical terms, it seems challenging to find a principled way to determine when a standards respective an SEP becomes "(more) automotive-specific."

C. The final product market

Finally, we turn to the third relevant market: the final product market. The FCO seems to define not only a single "automotive" market, but different individual (narrower) "downstream

³⁹ Bundeskartellamt 2024, at 2.

⁴⁰ EC 2025, at 6, para. 24.

vehicle markets”. Indeed, the FCO stresses that “the ALNG members seem to exceed the Horizontal Guidelines’ thresholds in at least some segments”.⁴¹ The EC does not seem to question this approach.”⁴²

This illustrates a clear inconsistency in the overall analysis. In the upstream licensing market, the authorities adopt a broad approach by referring to an overly broad licensing market for “SEPs for general mobile communications technologies across sectors”. In the downstream market, however, they appear to accept much narrower markets.

It is unclear why a broad approach is appropriate for defining the upstream licensing market, while a narrow one is used for the final product market. If the market logic is to remain coherent, the same principle should apply to both upstream and downstream markets. In any case, both authorities recognized that within some of these “narrower” relevant product markets, the 15 percent safe-harbour threshold could be exceeded. However, both authorities consider that there are no economic constraints because SEP royalties represent only a minor share of a vehicle or car’s total cost.⁴³

This reasoning is fundamentally problematic. Both the FCO and the EC consider potential efficiency benefits associated with the ALNG as a key factor for “tolerating” its operation. However, if licensing costs are indeed marginal, are the assumed “benefits” and efficiency not negligible? This calls into question whether collective negotiations through the ALNG are needed at all. If SEP licensing represents “less than 0.1% of the sale price,”⁴⁴ it is unclear what marginal benefits the ALNG could realistically deliver.

Furthermore, although the ALNG is formally open to suppliers, the authorities do not assess any potential anticompetitive effects in the supply chain. Such an assessment remains necessary, however, to fully understand the ALNG’s potential impact on other vertical markets. As a result, the analysis is incomplete.

⁴¹ Bundeskartellamt 2024, para. 3.

⁴² EC 2025, at 6, paras. 25 y 27.

⁴³ Bundeskartellamt 2024, at 2; EC 2025, at 6, para. 27.

⁴⁴ EC 2025, at 6, para. 27.

V. Conclusion and call to action

An accurate market definition is crucial to any sound competition law analysis. In the context of the ALNG, the authorities relied on two main analytical steps: a) the application of the substitutability framework borrowed from JPAs; and b) the identification of three supposed relevant markets related to cellular standardized technologies. As shown in this article, both steps are flawed.

First, the JPA framework cannot be transposed to SEP licensing, and even less to the ALNG. The Commission excluded its application in the draft Technology Transfer Guidelines published in September 2025⁴⁵ and has now confirmed this in the TT Guidelines adopted in April 2026.⁴⁶ While earlier informal guidance drew analogies with JPAs, the Commission has explicitly ruled out its application to LNGs. This framework now makes clear that the JPA safe-harbour logic does not apply to LNG structures.

Second, the authorities assumed the possibility of cross-industry substitutability in SEP licensing. As shown, such substitution does not mirror market realities. These flaws stem mainly from the mistaken use of either a general or a specific approach, each relying on a different methodology. At the general cross-industry level, the Commission's approach is too broad to capture meaningful competitive constraints. Once the analysis is narrowed to a specific way, however, it ceases to examine competitive constraints and relies instead only on technical parameters.

Taken together, these findings show that the informal guidance rests on a market definition disconnected from the realities of SEP licensing. To provide meaningful guidance for collective licensing arrangements that implies SEPs, competition authorities should have taken into account the need to preserve the balance of interests inherent in SEP licensing negotiations. Without such consideration, informal guidance and new frameworks risk legitimizing arrangements that weaken competition and innovation incentives in practice.

SEPs licensing negotiation groups appear unlikely to generate significant efficiencies. Instead, they risk distorting supplier-side competitive constraints. Competition policy should therefore reaffirm bilateral negotiations and patent pools as approaches which better reflect how

⁴⁵ Draft TT Guidelines 2026, at 71, para. 299.

⁴⁶ Revised TT Guidelines 2026.

SEP markets operate. This would ensure that SEP licensing remains balanced and effective, thus preserving incentives for innovation. Although the TT Guidelines now address LNGs in the SEP licensing context, they do not explain that substitutability operates through sector-specific implementation. As a result, further clarification will likely depend on an antitrust case applying that analysis in light of the Market Definition Notice.