CPI Columns
Intellectual Property

June 2022

# Injunctions Facilitate Patent Licensing Deals: Evidence from the Automotive Sector

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Since the automotive sector chose to incorporate cellular standards (2G to 5G) in its vehicles, there have been tensions between car manufacturers and the owners of patents essential to these standards (SEPs). This article briefly explains the background of these licensing disputes, the use and value of cellular standards for modern connected cars, the existing framework for licensing SEPs, and how licensing in exchange for reasonable rates may not be possible without an efficient court system and the award of injunctions against companies found to be unwilling licensees. The evidence from the automotive sector demonstrates the importance of injunctions to ensure the licensing of SEPs and a continuous circle of innovation.

## I. A Brief History of Connected Cars

Connectivity standards like 3G, 4G and now 5G are increasingly being used by modern cars. They allow numerous features such as navigation, alerting the driver about local traffic jams, roadworks, and other driving conditions, listening to music streaming services while driving, remote locking and starting of the vehicle, security alerts in case of unauthorized opening, finding the location of a parked automobile, remote monitoring of the car's condition and much more.

The use of cellular standards in cars is nothing new. The history of connected cars can be traced back to 1996 when General Motors together with Motorola produced the OnStar telematics system used in Cadillacs which allowed passengers to contact emergency services in case of accidents.[1] Then in 1997 BMW introduced its own BMW Assist telematics service offering traffic information and emergency calls. In 2004, BMW launched a smart telematics system with a built-in SIM card that allowed passengers to access weather, news, and entertainment services. Many more car manufacturers soon presented their own connectivity solutions and by the 2010s some degree of connectivity became a standard feature in modern cars.[2] In 2021 there were around 237 million connected cars in operation globally,[3] compared to 23 million in 2013.[4]

The added connectivity features are a very lucrative business for car manufacturers. The total revenue from connectivity-enabled products and services in the automotive sector is expected to be up to $483 billion by 2023, and as much as $2 trillion by 2030.[5] Consumers are estimated to pay between $600 and $20,500 for connectivity packages over the lifetime of a car, depending on the brand.[6] The market for monetization of car data could be worth between $450 billion and $750 billion by 2030.[7] Indeed, car manufacturers are openly marketing connectivity as a major selling point, using terms like "connected car" or

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[1] See Auto Connected Car News, 'Connected Car History and Timeline' https://www.autoconnectedcar.com/auto-connected-car-news-connected-car-history-and-timeline/ available at: BMW, 'Connected Car. Its history, stages and terms' available at: https://www.bmw.com/en/innovation/connected-car.html ; GSMA, 'Connected Cars: Business Model Innovation' (May 2012) p. 4.

[2] See T. Hiddleston, '3G Networks are Shutting Down – And That's Bad News for Your Car. Here's why' (166 January 2022) available at: https://www.cnbc.com/2022/01/16/3g-networks-shutting-down-in-2022-could-affect-your-cars-gps.html (providing a list of car models and dates from the start of using 3G connectivity). From 31 March 2018, all new vehicles in the EU are required to have installed eCall technology that automatically makes emergency calls if a vehicle is involved in a serious road accident, see Regulation (EU) 2015/758 of the European Parliament and of the Council of 29 April 2015 concerning type-approval requirements for the deployment of the eCall in-vehicle system based on the 112 service and amending Directive 2007/46/EC, OJ L 123. There are, however, far more technologies incorporated in connected cars, widely spread in the EU.

[3] Statista, 'Connected Cars Worldwide – Statistics & Facts' (8 December 2021) available at: https://www.statista.com/topics/1918/connected-cars/#dossierKeyfigures.

[4] Keith Naughton, 'A Race to Market the Connected Car' (10 January 2014) *Automotive News*, available at: https://www.autonews.com/article/20140110/OEM06/301109910/the-race-to-market-the-connected-car.

[5] B. Heiden, 'The Value of Connectivity in the Automotive Sector – A First Look' (12 February 2020) available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3521488.

[6] S. Arya, 'The Value of Standardized Technologies to Connected Cars' (2020) 69(4) *GRUR International* 365.

[7] Ericsson, 'Connected Cars' (2021) p. 7.

"smartphone on wheels," which speak for the importance of these technologies.

## II. A Centralized Option for SEP Licensing

In 2016, following years of futile discussions with automotive manufacturers, some relevant SEP owners joined the Avanci licensing platform. Avanci licenses 2G, 3G, and 4G SEP portfolios to car manufacturers.[8] Avanci was created specifically to address the requests of the car industry to have a one-stop-shop for licensing SEPs.[9] The licensing platform currently gathers 49 licensors, including major SEP owners such as Ericsson, Nokia, and Qualcomm,[10] and is estimated to represent the large majority of all 3G and 4G patents.[11]

Avanci offers a fixed royalty rate of $15 per connected car, which remains the same regardless of how many new licensors and SEPs join the platform and irrespective of the number of connections included in a vehicle.[12] The platform is beneficial to both sides. It saves transaction costs to licensors, who are then willing to accept lower royalties than if they had to negotiate bilaterally. For licensees, Avanci is clearly the better economical option than negotiating separately with 49 different licensors.

Avanci first negotiated with SEP holders and SEP users to determine what would be a reasonable royalty rate for these SEPs. Once a license was reached with BMW, in 2017, it published the rate. Some SEP users took more time to enter into a license, but no litigation was needed. Examples are Volkswagen, Volvo, Audi and Porsche in 2019, Jaguar Land Rover in 2021 and General Motors in 2022.[13] At the moment, Avanci has licensed 41 car brands.[14] Other car manufacturers, however, decided to dispute licensing terms, delay and litigate, such as Ford and Daimler. Many more appear to be still waiting to be sued despite knowingly using standardized technology for years.

## III. SEP Licensing Disputes

The prominent SEP litigation in the automotive sector involved car manufacturers Daimler, Tesla, Ford, and Continental— a component supplier. Only the timely reaction of courts made it possible to make reluctant car manufacturers take licenses.

In 2019 Nokia, Sharp, and Conversant, all members of Avanci, sued Daimler for patent infringement in Germany.[15] Daimler argued in court that its suppliers should be the ones taking the license and that it is anticompetitive for Avanci to refuse to license to component suppliers. It also claimed that the royalty rate of Avanci was too high as it should have been based on the price of connectivity components (in this case telematic control units – TCUs). German courts were not persuaded by Daimler's arguments. The Mannheim Regional Court held that the SEP owner under patent law is free to choose the level of the supply chain to assert its rights.[16] Similarly, the Munich Regional Court maintained that it is not abusive for SEP owners to seek licenses only from car manufacturers.[17] According to the Munich Regional Court, a FRAND commitment under which SEPs are licensed creates an obligation to enable access to the standard, but it does not impose a duty to grant licenses at all levels of the production chain.[18] Access to the standard can also be obtained by a license given at the last level in the production chain from which

[8] https://www.avanci.com.
[9] I. Nikolic, 'Licensing Negotiations Groups for SEPs. Collusive Technology Buyers Arrangements: Their Pitfalls and Reasonable Alternatives' (December 2021) *Les Nouvelles.*
[10] https://www.avanci.com/marketplace/.
[11] According to some estimates, at least 75% of 3G and 4G SEPs and probably even more as new licensors are continuously joining. See R. Vary, M. Noble, 'Avanci's Share of Mobile SEPs Far Higher Than Previously Reported' (10 August 2020) *IAM* https://www.iam-media.com/frandseps/avanci-market-share-3g-and-4g.
[12] https://www.avanci.com/marketplace/#li-pricing.
[13] https://www.avanci.com/about/#li-news.
[14] https://www.avanci.com/2022/05/31/avanci-announces-patent-license-agreement-with-ford/.
[15] *Nokia v Daimler*, 2 0 34/19, Mannheim Regional Court (18 August 2020); *Sharp v Daimler*, 7 O 8818/19 Munich Regional Court (10 September 2020); *Conversant v Daimler*, 21 O 11384/19 Munich Regional Court (30 October 2020).
[16] *Nokia v Daimler*, 2 0 34/19, Mannheim Regional Court (18 August 2020) 202, 213.
[17] *Sharp v Daimler*, 7 O 8818/19 Munich Regional Court (10 September 2020).
[18] *Sharp v Daimler*, 7 O 8818/19 Munich Regional Court (10 September 2020).165; see also J-S Borghetti, I Nikolic, N Petit, 'FRAND Licensing Levels Under EU Law' (2021) *European Competition Journal*.

suppliers can benefit from "have-made rights."[19] Courts also held that basing royalty rates on the selling prices of TCUs is not appropriate as it does not sufficiently represent the value of SEPs for cars. Connectivity, the court explained, allows car manufacturers to generate income from additional services offered to consumers, save costs, and optimize R&D expenses, which are not reflected in the price of the TCU.[20]

Against this background, in all three cases, Daimler was found to be an unwilling licensee per the *Huawei v ZTE* framework established by the Court of Justice of the European Union and was issued an injunction.[21] Daimler then first took bilateral licenses from Nokia, Sharp and Conversant but, probably realizing that it would be uneconomical to negotiate a license individually with each of the other SEP owners, it accepted a license from Avanci.[22]

Continental, Daimler's supplier of TCUs, brought a suit in the US against Avanci and some of its members alleging that a refusal to directly license SEPs to component manufacturers is anticompetitive.[23] The Northern District Court of Texas dismissed such claims. It found no antitrust injury because Continental could still produce TCUs for car manufacturers since SEP owners are actively licensing to them.[24] Moreover, the court noted that Continental may be able to produce TCUs at a lower cost since it would not have to pay a license for any SEPs as car manufacturers will cover licensing costs.[25] On appeal, the Fifth Circuit held that Continental did not even have standing to sue.[26] Continental's theory of injury was considered "double speculative" – the company would not be harmed unless car manufacturers first accepted non-FRAND licenses and then invoked indemnification rights. However, there was no evidence of any of these two prerequisites.[27] The Fifth Circuit also considered that Continental is not a third-party beneficiary of a FRAND contract and does not have an independent claim for a FRAND license.[28] Even assuming that Continental is a third-party beneficiary, the Fifth Circuit concluded that SEP owners have fulfilled their obligations since they are actively licensing SEPs to car manufacturers, which means that Continental "does not need to personally own SEP licenses to operate its business."[29]

Tesla was also sued for patent infringement by Sharp, Sisvel, Conversant, and IP Bridge in Germany, Japan, and the US.[30] Prior to litigation, SEP owners unsuccessfully attempted to negotiate licenses either bilaterally or through Avanci. After some time, all cases were withdrawn, indicating that Tesla likely accepted the Avanci license, although no public confirmation was made.

Lastly, as many as seven SEP owners sued Ford for patent infringement in Germany and the US.[31] The Munich Regional Court found Ford to be an unwilling licensee and granted an injunction in 2022. Just two weeks after the injunction ruling (which, by then, had not yet been enforced) Ford took a license from Avanci.

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[19] *Sharp v Daimler*, 7 O 8818/19 Munich Regional Court (10 September 2020) 171.

[20] *Nokia v Daimler*, 2 0 34/19, Mannheim Regional Court (18 August 2020) 174-177; *Conversant v Daimler*, 21 O 11384/19 Munich Regional Court (30 October 2020) 353.

[21] C-170/13 *Huawei v ZTE* ECLI:EU:C:2015:477

[22] J. Wild, 'Avanci agrees licensing deal with Daimler to round-off successful 2021' (22 December 2021) IAM available at: https://www.iam-media.com/article/daimler-avanci-deal-4g.

[23] *Continental Automotive Systems v Avanci* 2020 WL 5627224 (N.D. Tex. 2020).

[24] Ibid, 7.

[25] Ibid.

[26] *Continental v Avanci*, case 20-11032 (Fifth Cir. 2022).

[27] *Continental v Avanci*, case 20-11032 (Fifth Cir. 2022) 8.

[28] Ibid, 11 ("The supplier does not claim membership in the relevant SSOs and, crucially, it does not need SEP licenses from Defendants-Appellees to operate; Avanci and Patent-Holder Defendants license the OEMs that incorporate Continental's products. No evidence suggests that Patent-Holder Defendants and SSOs intended to require redundant licensing of third parties up the chain, which is unnecessary to effectuate the purpose of the FRAND commitments and reduce patent hold-up.")

[29] Ibid 12.

[30] R. Lloyd, 'Spate of patent litigation dismissals involving Tesla points to possible Avanci deal' (17 March 2021) *IAM* available at: https://www.iam-media.com/article/spate-of-litigation-dismissals-tesla-points-possible-avanci-deal-pioneering-oem.

[31] A. Sandys, 'Ford Takes Avanci License in Wake of Munich Judgment' (31 May 2022) JUVE Patent available at: https://www.juve-patent.com/news-and-stories/people-and-business/ford-takes-avanci-licence-in-wake-of-munich-judgment/ ; F. Muller, 'Ford Motor Company Settles Seven Patent Disputes in One go by Taking Avanci License to 49 SEP Portfolios: Munich Injunction May Have Been Major Catalyst, But Just One Factor' (31 May 2022) *Foss Patents* available at: http://www.fosspatents.com/2022/05/ford-motor-company-settles-seven-patent.html.

## IV. Lessons Learned

Four lessons can be drawn from the SEP litigation in the automotive sector:

1) connected car manufacturers cannot claim they are not using SEPs or that all SEPs are invalid and non-infringed. Car manufacturers themselves are marketing connectivity as a selling point of modern cars and are knowingly infringing standardized technologies. The question then is not whether they need to take a license, but rather whether they prefer to pay one collective Avanci license or engage in bilateral licensing with 49 different SEP owners. The answer is clear: an Avanci license is economically rational as the costs of individual bilateral licenses would greatly exceed the value of one uniform license.

2) the principal disagreement is about the price for SEPs. Courts have correctly recognized that the price of unlicensed components is not a reliable proxy for the value of SEPs and that SEP royalties should be based on the additional benefits and revenues enjoyed by car manufacturers. From that perspective, the royalties of the Avanci license represent a very small fraction of the overall value generated by car manufacturers from using connectivity standards.

3) injunctions are necessary to make unwilling licensees take a license for the patents they are using. Car manufacturers took a portfolio license from Avanci only after two German courts granted injunctions by carefully examining the behavior of both parties and finding that car manufacturers were unwilling licensees. The experience from the automotive sector is further evidence of why only monetary damages for SEPs are not an adequate remedy.[32] Damages can only be awarded for individual litigated patents, and they cannot make implementers take a license for the whole SEP portfolio. As a result, only seeking damages would require SEP owners to litigate patent-by-patent, country-by-country, leading to even more litigation, uncertainty, and waste of resources that could be better spent on research and development of next-generation technologies. The UK Supreme Court correctly recognized such a scenario as a blueprint for hold-out.[33] Moreover, many SEP owners may not even have the resources for mass litigation and would, as a result, remain uncompensated and their technology freely used by car manufacturers. Such a situation would have negative consequences on the incentives to innovate and participate in an open standardization system. The experience from automotive SEP litigation, therefore, shows that injunctions are the only efficient way to incentivize unwilling licensees to take a portfolio license.

4) unwilling licensees create an uneven playing field against those companies that were willing to take a license without litigation. The reality is that companies that are found by a court to be unwilling licensees and are issued an injunction can benefit from *the same rate* as companies that negotiated in good faith and entered into a FRAND license agreement early on.

   A solution to address this imbalance and disincentivize further hold-out strategies could be to make a company that is found by the court to be an 'unwilling licensee' pay a higher royalty than willing licensees. Such an option has already been discussed by the Commission's SEP Expert Group.[34] SEP owners could then consider announcing compliant and non-compliant rates.

[32] See USPTO, DOJ and NIST, 'Draft Policy Statement on Licensing Negotiations and Remedies for Standards-Essential Patents Subject to Voluntary F/DRAND Commitments' (6 December 2021) 8-9.
[33] *Unwired Planet v Huawei*, [2018] EWCA Civ 2344, 88, 111.
[34] Group of Experts on Licensing and Valuation of Standard Essential Patents, 'Contribution to the Debate on SEPs'(2021), 134-135.