

# Today's GENERAL COUNSEL

## Connected Cars and the Clash of Two Patent Regimes

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In the early 1900s, Henry Ford found himself embroiled in a decade-long patent battle with George Selden that would end up shaping the auto industry for more than a century. Though this protracted fight played out in federal court and in the court of public opinion — with Ford and Selden trading blows as America and the world watched — the feud has largely remained the only high-stakes patent battle that the industry has seen.

Unlike other technology sectors, the auto industry has not experienced rampant patent litigation among key players. Patent litigation takes a backseat to well-entrenched business relationships.

For decades, carmakers and multiple tiers of suppliers have managed patent rights through licensing agreements.

The car has come a long way since Ford and Selden did battle. Not only can a buyer purchase a car in any color (not just the black that Ford once famously offered), but in various power-train versions, with multiple connectivity features and the promise of eventual self-driving capability. It is connectivity that introduces a slew of new players into the auto industry, many of whom have also been key stakeholders in the smartphone sector. However, the management of patent rights for smartphone technology, characterized by the

smartphone patent wars, stands in stark contrast to the management of patent rights for automotive technology.

Original equipment manufacturers (OEMs) of cars have traditionally let their suppliers handle the licensing of patents. Thus, royalties are assessed at the component or subassembly level. Smartphone manufacturers, on the other hand, generally pay licensing royalties at the end-product level. When it comes to the connected car, the jury is still out as to which of these two patent protocols will prevail. The outcome is important because a royalty assessed as a percentage of the price of a \$35,000 car will be significantly different from

## Intellectual Property

one assessed as a percentage of a \$100 subassembly.

When it comes to the connected car, the technology that will be adopted to enable vehicle-to-everything (V2X) connectivity is still in a state of flux. Enter the world of standardization. Standards bodies have long played an important role in the development of technology. In the automotive industry, the Society of Automotive Engineers (now SAE International) was formed in the early 1900s to streamline production and reduce costs, among other things. Early efforts included standardization of lock washers and steel tubing used by automakers.

In the wireless realm, standardization has allowed interoperability of products from different manufacturers. Mobile phones have been subject to successive wireless standards — from first generation, 1G, through the current fourth generation, 4G Long-Term Evolution (LTE). Still under development is the 5G, the successor to LTE. Conceptually,

suits related to the different standards they embody, including 3G, LTE, and video standards. The aggregate cost to license the patented technologies from patent owners is often referred to as the “royalty stack,” which has been estimated to cost as much as the physical components that make up a smartphone. In theory, the royalty stack needed to sell a smartphone free of claims for patent infringement can become economically unfeasible if the stack grows beyond the profits derived from the sale of the device.

The structure of licensing obligations for patents that are encompassed in a technical standard, the so-called standard-essential patents (SEPs), can take several forms. Under one scenario, patented technology may be incorporated into a standard on the condition that the patent owner grant a royalty-free license to standards-body members. The Bluetooth Special Interest Group, a standard setting organization

manage the licensing of patent rights. In the early 1900s, Selden — himself a patent lawyer holding a patent to an automobile — did so during his feud with Ford by forming the Association of Licensed Automobile Manufacturers (ALAM). In exchange for royalties, certain automobile manufacturers joined the ALAM, but Ford was excluded.

Rather than exit the industry, Ford fought the ALAM in several litigations and won. The ALAM fizzled out shortly thereafter. Today, there are many successful private entities licensing patent rights adopted under a given standard. For example, MPEG LA administers patents related to video standards MPEG-2 and AVC. MPEG LA charges a fixed fee (with certain volume adjustments) for each device that implements those standards. Licenses are available to suppliers (e.g., chip makers) and, under the doctrine of patent exhaustion, those licenses cover manufacturers of end products. This seems to parallel

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carriers and smartphone manufacturers benefit by spreading development costs across members of the standards body, while consumers benefit through the competition and choice afforded by interoperability of equipment from different manufacturers.

### THE ROYALTY STACK

Inherent to interoperability is the fact that, at some level, standard-compliant devices operate in the same way. As a result, these devices may be susceptible to the assertion of patents that claim the standardized technology that they embody. By comporting to a standard, standard-compliant devices necessarily infringe patent claims that cover the standard. For years, manufacturers of smartphones — handheld devices housing myriad technologies — have faced licensing obligations and law-

(SSO), requires its members to enter into a patent license agreement that grants other members a royalty-free license to any patent claims that are infringed by implementing the Bluetooth standard. As members of the Bluetooth SSO, auto manufacturers and their suppliers receive such a license.

Under another scenario, patented technology may be incorporated into a standard with the agreement from the patent holders to offer a license to the patented technology to would-be implementers on fair, reasonable and non-discriminatory (FRAND) terms. Much has been written and litigated on the meaning of FRAND terms, but there has been little uniformity in how courts and standards bodies have addressed the issue.

Under the auspices of industry players, private entities may be formed to

the model that the automotive industry has generally followed. Licenses are available to the component supplier; and royalties are assessed on the price of the component, not the price of the end product (the car).

Licensing of standardized wireless technology, as evidenced by smartphone litigation, has followed a different path. LTE was developed by the 3rd Generation Partnership Project (3GPP) and promulgated by the European Telecommunications Standards Institute (ETSI) — the same entities that are currently developing 5G technology and who stand to play a role in the world of connected and autonomous vehicles.

The ETSI Intellectual Property Rights Policy requires that licenses be made available on a FRAND basis but does not require that licenses be made available to component suppliers or

that the royalty be assessed at the component level. Smartphone litigation has often involved arguments over whether it is proper to assess a royalty for wireless communications on the value of the entire smartphone — or whether, instead, on the value of a component or a subset of components, such as the modem and baseband processor — that provides a given functionality.

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### CLASH OF LICENSING REGIMES

Establishing a licensing regime in a given industry may not be as simple as having an SSO promulgate licensing policies and expect industry players to follow along. For instance, the Institute of Electrical and Electronics Engineers (IEEE) is responsible for promulgating various standards, including the 802.11p standard, which is projected by some to be a key enabler in V2X data communications. The recently revised IEEE-SA Standards Board Bylaws recite certain considerations for determining a “reasonable rate” under FRAND. These considerations appear to be aimed at more closely tying the FRAND rate to the components that implement the standard, rather than to the vehicle as a whole. But an early read on patent owners’ willingness to license their patents under these terms indicates that the revised bylaws may be unpopular among patent owners who appear reticent to pledge to license their patents under the new terms.

As the auto industry enters a new technology phase, where connectivity appears poised to take center stage, some stakeholders have started to take action in European and American courts. On one side, patent owners of cellular technology have commenced patent infringement lawsuits in German courts against

car OEMs. On the other, at least one supplier has filed a lawsuit in U.S. federal court for breach of contract against patent owners of cellular technology for failure to license those patents under FRAND terms. The stakes in these ongoing litigations are high, as their outcomes may help shape the future of the industry.

Patent infringement in the United

States statutorily entitles a patent owner to no less than a “reasonable royalty.” And in litigation, parties are generally required to apportion the royalty to the value of the patented invention. In fact, some case law suggests that royalty calculations should be based on the smallest saleable patent practicing unit (SSPPU) and further apportioned as appropriate. But, as exemplified in the smartphone patent wars, royalty calculations may also be based on comparable licenses, which have become a proxy to SSPPU-based apportionment.

If the SSPPU is the starting point, the royalty base will typically be a component of the smartphone. Conversely, if comparable licenses are the starting point, the royalty base is often the price of the entire smartphone, since real-world licenses are often tied to the end product manufactured by the licensee. These two starting points may result in significantly different patent damages awards. Thus, the importance of the initial litigation outcomes and the initial deals struck by patent owners and implementers of V2X technology should not be underestimated. They have the potential to set not only legal precedent but also a new direction in industry practice.

The connected car is at a crossroads.

Two distinct sets of industry practices have come together by the funneling of technologies into the car of the future. For stakeholders in the nascent connected car industry, the outcome of ongoing litigation — pitting patent owners of cellular technology against car OEMs and their traditional suppliers — may provide some defining guideposts for the industry. The initial licensing agreements executed by these parties also stand to play a role in shaping the future of the industry because, in the world of patent damages, comparable licenses are generally accepted as evidence of industry practice. ■



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