



Keeping up in the patent race for connected cars

The interplay across technology sectors and competition between car manufacturers in the development of connected cars means that the established car manufacturers should ensure that they are not left behind in building and exploiting their patent portfolios

If you buy a car today, you could be overwhelmed by the number of driver assistance options available. Examples include systems which help drivers maintain a safe speed and distance to the car in front, monitor the blind spot for safe overtaking, and ensure that the driver stays within a lane, to name just a few. As well as driver assistance, inside the car software can integrate a smartphone with a car's infotainment system, such as Apple's CarPlay, Google's Android Auto or the Car Connectivity Consortium's MirrorLink. The next generation of driver assistance will include so-called connected cars which may eventually remove a driver from direct involvement in driving their car. These systems will require the communication of large amounts of data between cars, and between cars and other infrastructure.

In recent years, standardization has been hugely important to the telecommunications industry to ensure compatibility between handset providers and operators. Likewise, connected cars will need to be cross-compatible to ensure that cars from different manufacturers can communicate with each other.

Standard setting organisations (SSOs), have been instrumental in developing telecommunications standards. The European Telecommunications Standards Institute (ETSI) is one such SSO, and it is currently developing standards for car-to-car and car-to-infrastructure communications as part of its [Intelligent Transport Systems standards project](#).

The established car manufacturers are developing much of the new connected car technology, but other technology companies are also now getting involved. Microsoft recently announced a new patent licensing agreement with Toyota that includes broad coverage for connected car technologies. This is not surprising, since the nature of connected car technology means that technology companies, with their enormous experience in developing communications, software and data processing technologies, are ideally placed to work with the established car companies, and consequently the collaboration and licensing opportunities will be substantial. What impact might this have on the automotive industry in terms of IP?

In the telecommunications sector, patent holders declare their standard essential patents (SEPs) to a relevant SSO. Indeed, most SSOs require that companies involved in the standard-setting process do this. As part of this declaration, the patent holder must agree to offer licences on fair, reasonable and non-discriminatory (FRAND) terms. The overall aim is to increase uptake of the relevant standard, while also rewarding those who contribute to the standard-setting process and the technological field.

Licence agreements and royalty rates would then normally be agreed between the SEP holders and implementers. However, occasionally there can be disagreement as to what FRAND rate is applicable, and this is when patent disputes end up in the courts. Even though the dispute may be over small percentages of a royalty, due to the vast number of handsets, the sums of money involved can be substantial. Most of these FRAND disputes have ended up settling before judgment, or no guidance has been offered by the courts as to what royalty rate is appropriate under FRAND terms.



Yet, recently, in the well-publicised dispute of Unwired Planet v Huawei Technologies in the UK Patents Court, Mr Justice Birss did end up providing guidance on royalty rate determination.

Birss J recently handed down his [judgment](#) in relation to various mobile phone standards, and provided some welcome guidance as to how FRAND royalty rates should be determined on a worldwide basis. Patent holders now have some clarity as to how FRAND disputes could be decided if they end up in court, and the repercussions could be felt well beyond the telecommunications sector.

With standardisation increasing in the automotive sector, along with the amount of licensable technology, particularly in the area of connected cars, it seems inevitable that a similar type of FRAND dispute could arise. Some interesting issues will then surface; for example, will a FRAND royalty be applicable to the cost of the car? Or will it apply only to some component which uses the standardised and patented technology? The economics of the automotive sector are very different to those of the telecommunications sector. Whilst the number of patents in the connected car sector is currently relatively low, the cost of a car far exceeds the cost of a mobile handset. There will also be difficulty in identifying information on comparable licences, which Birss J used extensively in his judgment in the Unwired Planet case.

Another interesting comparison between the sectors is with the nature of the various entities involved. In telecommunications, the major patent holders and thus beneficiaries of licences have been the handset providers, while the network operators, whose networks the handsets use and who sell the handsets to customers, have seen relatively little benefit from patent licensing. In fact, their margins have been squeezed as they end up absorbing the cost of the licences, rather than passing them on to customers. Could a similar situation occur in the automotive sector in future? As with the handset providers in the telecommunications sector, one can envisage the technology companies, who are increasingly getting involved in the automotive sector, using their vast licensing experience and growing patent portfolios to squeeze the margins of the established automotive companies who, somewhat like the network operators, will be providing merely a platform for the new technologies as they become progressively more standardised and important to the consumer. To avoid this, the car companies should be investing in their patent portfolios and licensing departments, and start playing an active role in the SSOs.

A final word of caution arises from the Unwired Planet case, in which Birss J indicated that a final injunction removing products from the UK market should be awarded against a standards technology implementer if they are found to infringe a valid patent and refuse to take a FRAND licence, as determined by the court. In future, for companies in the automotive sector who refuse to play by the rules of patent licensing already established in the telecommunications sector, might we see cars removed from our roads under a court injunction?

In summary, we are yet to see how connected cars will be realised and exactly which standards will be adopted. However, with an interplay across technology sectors and competition between manufacturers, it is not beyond question that the growth in technology will lead to increased filing of patents and future disputes involving companies not traditionally known for operating in the automotive sector (e.g. Microsoft, Google, etc.). The established automotive companies should be wary, and ensure that they are not left behind.

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