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INTERNET OF THINGS IN INDIA – INNOVATION AND PROTECTION

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With the advent of software patent litigation in India, it is high time for the courts to bring out a clear test of patentability to CRI...

We live in a world of five billion smart machines connected to the worldwide web or the Internet. In a projection by Texas Instruments, there will be 50 billion smart connected devices by 2020. Many of these devices that are connected can be remotely accessed and controlled by a user through the Internet. For example, Internet of Things (IoT)-enabled devices let users know about the devices' usage, location, and other information through the Internet. In addition, IoT-enabled devices can also be controlled remotely through the Internet. Some examples of IoT-enabled devices include CCTVs, air conditioners, cars, etc. This concept of connecting electronic devices to physical world through the Internet or through any other means (for example, Bluetooth) by which the data/instructions may be transferred to the device is called IoT. Needless to say that IoT essentially includes processing of data which leads to intelligence derived from the data in the device. This is how you, for example, know that your driver has been

driving a car above a city speed limit while you are at home through your smartphone.

IoT has many companions to complement it. Two of the widely known are Machine to Machine Learning (M2M) and Artificial Intelligence (AI). M2M and AI introduce elements of human behavior into the system through past experiences. This way and with time, the device will be trained to be able to assess the requirements of the master user based on circumstances and context. For example, recently, we have seen a video of Google's CEO giving a demo of how a Google Assistant can book a salon appointment understanding the context and nuances of human interaction on a speech command by the owner of the phone. This demo of the interaction of a machine with a human is the consequence of, among many things, artificial intelligence and machine to machine learning – a concept, which has the potential to be the next big thing on the Internet. We certainly must have seen Amazon's Echo Dot – a device which, to some extent, exhibits human-like interaction with a user on a general human-like command prefixed with "Alexa".

With advancement and flexibility in the telecommunication and Internet industry, we can now only imagine what a machine would be capable of doing on a speech command, or even otherwise, by simply learning through inputs that were given earlier to connected machines. The nature of the innovation has certainly shifted from "being convenient" to "being assistant" to a user for quick, human-like assistance from a machine.

Like many other technologies, IoT and its companions are being developed with a lot of investment in research and development. It goes without saying that the protection of these technologies is of utmost importance, not just for companies which have developed it, but also for the society at large. World's major patent jurisdictions have strengthened their laws to protect such inventions and even courts, owing to the dynamic nature of this domain, have put forward several broad tests which do not disappoint innovators or implementers as inventions worthy of protection are protected. In India, however, the law is uncertain; courts have not come up with any authoritative judgment/ test to take a firm stand.¹

In India, in a very broad manner, any technology which deals with software implementation is known as “Computer Related Inventions” (CRIs). It is pertinent to mention that the Indian Patents Act does not separately define CRIs and that software patents are not distinguished from any other domain of technology in any manner. Therefore, software patents ought to be treated like any other “invention” as defined in the Indian Patents Act and ought to be subjected to the exceptions enunciated in Section 3 of the aforesaid Act. The exception carved out under Section 3 of the Act is mutatis mutandis to the other major jurisdictions like USA and Europe and the test laid down in the aforesaid major jurisdictions are very well applicable to the Indian jurisdiction. However, the approach of the Indian Patent Office (IPO) is not only uncertain but also surprisingly different from what has been suggested in these well-established jurisdictions. As a matter of fact, India’s lagging far behind in the number of software patents may be due to the stagnant approach of the IPO and also the ignorant attitude of indigenous implementers towards CRIs in India. It is pertinent to mention here that from time to time, the IPO has released guidelines regarding the patentability of computer-related inventions. It is pertinent to mention that the aforesaid guidelines were released without any basis in precedence or without any specific reliance on the established practice of other jurisdictions like USA, Europe, or Japan. In fact, the IPO keeps on changing its stand on software patentability, and therefore, it is now most important to have clear-cut guidelines from a court on software patentability for a technology like IoT.

THE PATENT, THE INTANGIBLES, AND THE IOT

Inventions pertaining to IoT may be realized in different parts of a system or even outside a system. For example, an invention pertaining to a bandwidth of a signal may entirely operate at the level of the band itself. Similarly, an invention wherein a signal is able to carry more information without any change in bandwidth may be executed entirely at the level of intangible waves. Such inventions may remain intelligible but have a physical effect in terms of efficiency (for example, efficiency in transmission) and quality (for example, signal strength or caller voice quality over a mobile device). In most of these technologies, the invention (or the product of the invention) lies outside the hardware within intelligible waveforms through the operation executed over these waveforms through hardware and software. In general, such technologies, overemphasizing on parameters like hardware elements in some of the jurisdictions, are not

synchronized with the modern technology, which may entirely be at the level of the waveforms or bandwidth. In fact, there is nothing in the Indian Patents Act that may emphasize the use or non-use of hardware elements in software patents for them to be patentable. Linking a CRI to a computer program per se based on the reasoning that no hardware was used is in fact an illogical treatment of software patents and cannot be adopted as modern technologies are in fact trying to use minimum hardware to optimize the economics of trade.

ENFORCEABILITY OF IOT-RELATED PATENTS

The enforceability of IoT-like patents may also be the bone of contention in the absence of clear guidelines or policy in view of the fact that typically, IoT devices are controlled through multiple parties. For example, if through IoT you are able to access the speed of your car on your mobile phone; broadly, it involves (i) a device that is connected to the car to collect data and mechanism to code/encrypt data for transmission, (ii) the mechanism through which the coded/encrypted data is transferred to the cloud real time, and (iii) the mechanism through which the data is decoded/decrypted at the mobile device. It is important to note that in the above scenario, there is a possibility of at least three different sub-systems/parties working in collaboration to affect the car's IoT system. In such multi-system scenarios, the question as to where the infringement has happened and who all have indulged in the infringement becomes important for the purposes of both injunction and damages. The fixation of liability, therefore, may require a detailed analysis of the concept like contributory infringement/joint infringement, to which the Indian justice system is alien.

CONCLUSION

Even though we have already stepped into the era of IoT, which is more aggressive than ever, the legislation to promote and protect such inventions still needs the adoption of wider interpretation to suit the efforts of scientists and engineers on these highly complex, intangible elements of inventions. Today, India is quite far from the inventions pertaining to IoT, Artificial Intelligence, and Machine to Machine Learning phenomenon. In fact, the entire patent jurisprudence on the legislation has been left to the whims and fancies of the IPO, which from time to time passes "policy documents" qua software patents. Apart from the fact that these policy documents do not reflect the global view on technologies like software and IoT, these are

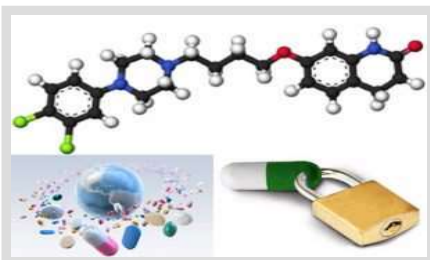
mere guidelines which have no force of law before courts, which are the only agencies that may interpret laws. Globally, while courts have started taking cognizance of these technologies and started granting patents, we in India are still looking for the “elements” in claim 1 to get a technology patented.

With the advent of software patent litigation in India, it is high time for courts to bring out a clear test of patentability to CRIs. This has particularly become important in view of the fact that India is also seen as a hub of software technology investment. A clear and certain law pertaining to CRIs is the need of the hour.

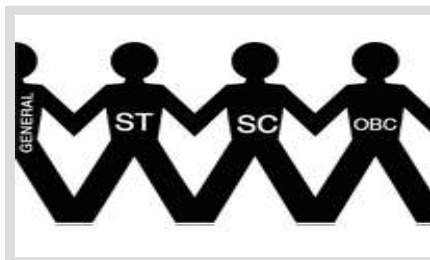
1. There are cases before Indian Courts at the final stages (for example, TLM Ericsson v Lava, Dolby International & Anr. Vs Das Telecom Private Limited) before Delhi High Court which may shed some light on the law of “computer related inventions” or more generally on software patents

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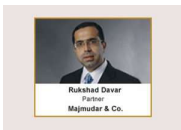
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