

# article

## IP in the Internet of Things (IoT)



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The Internet of Things (IoT) refers to the communications network linking physical objects and allowing them to exchange information without the need for human intervention. It is expected that many new businesses will be set up to create and use IoT technology, introducing new companies to the telecommunications industry, alongside the many and varied existing participants.

A range of IP (Intellectual Property) issues will affect developers and users of IoT devices. Many previous and current wireless consumer technologies (such as Wireless LAN and cellular telephones) teach IP lessons that will also apply to IoT. This article will discuss a number of the most relevant issues, especially focusing on Patents.

### Issues facing industry participants

Different groups are already involved in IoT development, including: telecoms network operators; equipment manufacturers; product distributors and retailers; and software application developers. Some of the IP issues facing each of these groups will be similar, whilst others may be quite different. Each of these groups will be involved in the creation of a wide range of IP:

- technology, protected by Patents, know-how and trade secrets;
- branding, protected by Trade Marks and other similar rights;
- physical objects, with design protection for their aesthetic features; and
- other creative products, with copyright and other ancillary protective rights.

As in all industries, ensuring that these rights are properly protected will be a vital part of any business plan.

Moreover, commercial arrangements between these groups may be set up on the basis of IP. For example, equipment manufacturers may licence technology rights between each other, especially in the context of standardisation. Product developers may trade or license technology rights from other industries to bring that technology into IoT products. Branding and Trade Mark rights may also be licensed. One potential benefit of this is the ability for consumers to identify products that will work together (interoperability), which has worked well for cellular telephone and Wireless LAN systems. Commercial partnerships are also developing to include consumer communications technology in objects that would not previously have had any such functionality, such as domestic electrical items (fridges, heating systems, washing machines, etc.), clothes and furniture. IP licensing may help this to flourish.

With so many Patents and other rights in the telecommunications industry, freedom to operate will be a further concern. Searches can help to identify relevant Patents and are recommended, but will not be straightforward and could be expensive. Non-practising entities, who seek Patent license fees from industry participants, but who do not manufacture or sell any products, are likely to be active and will cause concern for smaller and larger players in the IoT industry. At the early stages of any technology, broad Patents are sometimes granted. Some companies will

consider defensive strategies in relation to these, for example seeking to oppose, limit or revoke them.

### **Standardisation**

Standardisation bodies, such as ITU, 3GPP, IETF and ETSI are developing standards for IoT technology based on Machine-to-Machine (M2M) communications and other existing architectures, protocols and designs. Industry participants at all levels are active in these bodies and many will, in parallel, be seeking protection for technology they have developed that has been or will be incorporated into the standards. Obtaining such "Standard-Essential Patents" (SEPs) can be highly advantageous. Although such Patents may only be licensed on FRAND (Fair, Reasonable and Non-Discriminatory) terms, the wide usage of standardised products provides a captive market. Although there are a number of on-going disputes in the area of FRAND licences (such as the recent cases between Unwired Planet International and Huawei Technologies Co. in the English courts), the advantages to SEP owners remain high. Developers in this industry would be wise to keep up to date with these SEPs and, if they are able, seek to obtain their own SEPs as well.

Moreover, major players in the telecommunications industry are already promoting their own IoT licensing platforms, in an attempt to make the licensing of relevant Patents far easier for smaller entities. Non-practising entities may soon do likewise. Whilst companies with larger numbers of Patents may benefit by licensing their technology, the additional cost of Patent licensing may become a significant burden as the IoT industry grows. Lowering the prices of licenses and more effective licence management may help to keep this burden down.

### **Software patent issues**

Software will be a major component of IoT technology. Many software inventions are patentable. Patent protection for software has sometimes faced problems, however. Recent

legal developments in the US particularly have created new challenges in obtaining and enforcing software Patents. Nonetheless, the telecommunications industry has mostly been more successful in using software Patents than other industries. Examples of patented software technologies in this field include data communications protocols, authentication software, secure communication functionality and network management processes.

Ensuring that the Patent application is drafted and subsequently dealt with by a professional with knowledge and experience in both the technology and legal issues helps to mitigate or even avoid problems. Some Patent Offices and many courts have little experience or understanding of telecommunications architecture. Even those with this expertise struggle to maintain it as the technology develops so quickly. A Patent application that can explain the technology in straightforward, accurate terms often helps to address problems affecting other software Patents before they arise.

Some IoT innovations, especially in the area of software, will focus on new business models and data handling methodologies. Obtaining protection for such software is a complex area of law, with the possible protection differing between countries and changing over time. An experienced adviser will be able to provide guidance to help developers and adopters in this field of technology.

### **Tips and guidance**

Companies working in or seeking to enter the IoT industry will certainly benefit from an experienced IP adviser. Boulton Wade Tennant's wide experience in advising on IP issues in the telecommunications industry is already helping our clients to navigate the new commercial world that IoT brings. Our attorneys are not only expert in the legal issues, but also understand the technological and commercial aspects, having previously worked as engineers and developers. We have many attorneys with experience within all areas of the telecommunications industries and an outstanding record in advising on and protecting software technology.



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One initial step is to identify the innovations and IP that the company has created and ensure that any valuable assets are protected. An IP adviser can help here. Once innovations and IP have been publicly disclosed, the protection available may be significantly reduced. Therefore, it is beneficial to seek advice at an early stage, if possible. IP advisers can help to put together Patent strategies, for instance as part of a long-term business plan.

It is also wise to keep abreast of the Patent landscape. Many free tools are available for searching Patents, so this need not be expensive or time consuming. An IP adviser can demonstrate such tools or provide

landscape searches, as required. They can also provide advice on licensing and defensive plans, if needed.

The burgeoning IoT industry presents many opportunities. Consideration of IP will be an important part of any commercial planning and execution. Professional IP advisers are well-placed to provide the assistance that businesses, from start-ups to market leaders, require.

If you need further information please contact Simon Kahn or your usual Boult Wade Tennant adviser.

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This information has been prepared by Boult Wade Tennant.

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