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INTERNET OF THINGS: IP LAW NOVELTY

Key words: *Internet of Things, IoT, IP protection for IoT, patents in Internet of Things, IP law novels.*

The concept of the Internet of Things is rather new not only in the domestic landscape, but also in the world. First time this term was formed by the British pioneer Kevin Ashton during his collaboration with Procter & Gamble. The entrepreneur used the term 'Internet of Things' to describe a system where the Internet, which had already had a huge impact in the world in the late 1990s, would be linked to the physical world of people through a variety of sensors that could be located everywhere.

Internet of things (IoT) is a network of everyday devices, appliances, and other objects equipped with computer chips and sensors that can collect and transmit data through the Internet, including for instance devices such as smart watches, smart toys, smart home devices and connected cars. This presentation analyses the IoT and intellectual property law in the existing European legal framework from copyright law, patent law and trade mark law perspective [1].

'IoT' includes a network of devices and devices that contain built-in sensors, actuators, electronics drives and software that allows these objects to receive and transmit information and data. IoT is a peculiar process of interaction of things in the physical world via the Internet [2].

IoT allows devices not only to store data, but also interact with each other, coordinate and make decisions independently on the basis of information analysis. Smartphones have changed the very model of behavior of our personal life, and Internet of things makes «effective» almost every subject around us. Intelligent buildings, intelligent systems implemented in factories, logistics, security systems, the medical sector, autonomous vehicles, city-level infrastructure and urban planning are just a shortlist where IoT is already implemented and in active use.

The idea of the Internet of things has become the result of advanced concepts of the last twenty years, including a wireless network throughout the planet with the help of satellites, widespread communication, comprehensive computing and artificial intelligence. This vector of technology development progress has led to its' was their unconditional and deep integration into the economic, public and private life of each of us [3].

While protecting intellectual property rights for the Internet of Things it is worth considering, that it is complicated by the multi-level structure of the ecosystem in which the devices are located, as it concerns not only the sensors contained in devices and software that allows interacting with each

other devices, but also the devices and technologies themselves on which they are built.

In order to successfully work with other systems (interacting with each other), IoT devices produced by different manufacturers should be able to work together – which means that there are a large number of patents that overlap each other. And with the number of components and elements of each single device, even a small IoT system can have thousands of active patents covering a multitude of functions of each single element, thus, after patenting the invention in the IoT, it will be very difficult to avoid a large number of claims from patent holders associated with devices that make up the complete network.

New participants in the market should take into the account that many established players already own significant intellectual property (IP) in one or more of the spaces. First of all, newbies need not only analyze which patents are already included in the newly-built IoT ecosystem, but also consider where the possible infringement risks lie.

IP protection on IoT sets challenging tasks to the IP strategists unlike other computer-related technologies. The best way to start is to carefully write patent claims, which will help so that they only require a single actor to perform all steps.

The decision of Alice of the Supreme Court explained that a simple implementation of an «abstract idea» on a computer would not be acceptable. On the other hand, an invention that involves controlling a group of physical object provides an improvement to an existing technology or is not just an ordinary and usual solution to a known problem, is not «abstract» and will be eligible for patenting [4].

Moreover, composing a wide patent application may provide more opportunities for filing a claim for patent infringement in the future. However, it is important to know that the patent office may narrow the breadth of your claim during its review due to Alice and some other recent decisions of the Supreme Court.

Patent application as an explanation of how your product works includes not only technical aspects of product, but also commercial value of your patent which is based on the potential profits arising from new products or services that can/will incorporate your novel ideas. This makes it important to build your patent application around the reason that your invention's novelty matters, and to state what its commercial potential could be.

Obviously, IoT will put some pressure on IP relations. This is connected both with the complex multi-level system of patents within the IoT ecosystem, and with the relative novelty of all inventions in this area. The most important moments for those who want to protect their invention in the IoT is to fill a patent application early describing a specific novelty of their system, while avoiding lower level patents. This way you can avoid a lot of litigation with the manufacturers of physical elements on which IoT system is built. Moreover, early patenting will provide potential profit in case of product success in the future.

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LEGAL MECHANISMS OF CONTENT PROTECTION FOR UNLAWFUL USE IN THE INTERNET

Key words: *framework, digital processes, restriction, Internet.*

In the current framework of globalization of digital processes, the Internet has become the largest and the most powerful platform in which a huge amount of information is concentrated. This situation has two diametrically opposite consequences, on the one hand, the world has huge opportunities to use any content, and on the other hand, right holders or content managers, despite the existence of legislative attempts to regulate this area, almost no protected against unlawful and illegal using the content they created.

It should be noted that in Ukraine for a long time the legal regulation of relations related to the Internet network was left to the attention of the legislator. Following the events of 2014, legislation began to appear in the Verkhovna Rada of Ukraine, which have been aimed at limiting the use of certain content on political grounds. Interestingly, by 2013, Freedom of the Net, which is being formed by the international human rights organization Freedom House, Ukraine was a country with free Internet. But after 2014 (as of 2018 inclusive), Ukraine in this rating has gone to the group of countries with «partially free» Internet.

Obviously, such restrictions in the online environment in Ukraine have something to do with the blocking of pro-Russian or pro-separatist web pages, but not with the unlawful use of content that manifests itself in violation of intellectual property rights.

Nevertheless, these circumstances, among other things, became an impetus for the promotion and adoption of laws aimed at regulating the relations related to the protection and protection of the rights of users of the Internet, the content placed by them, which may contain as objects of copyright rights, related rights, and other objects related to intellectual property.