3D printers a significant threat to intellectual property, warns technology lawyer

02 July 2012
3 min. read

During a recent seminar held in conjunction with the Australian Computer Society, HopgoodGanim senior associate Hayden Delaney said that while 3D printers are undoubtedly a remarkable innovation, they have the capacity to turn entire industries on their head and seriously disrupt long-established business models.

3D printers and scanners, which enable the mass production of solid objects from a digital file, make it as cheap to produce one item as it is to make one million. According to Delaney, this will change the fundamental concepts underpinning economies of scale.

Principal consultant at consultancy Cogentia, Dr Paul Campbell, who co-presented the seminar with Delaney, says that 3D printing will close down distribution chains as digital inventories replace the need for physical ones.

"The economics of 3D printing reduce the need for assembly, so cheap labour becomes less important in the cost of manufacture. It offers Australian business the opportunity to rebuild a new manufacturing sector based on creative design of 3D printable models, rather than labour costs.

"In essence, 3D printing will make existing manufacturing engineering and trade skills obsolete."

Delaney says that from an intellectual property perspective, this emerging technology will do to the physical world what has been happening to the digital world for a long time now - make it very easy to copy things.

"This brings with it a range of intellectual property issues, including copyright infringement and the interplay with design and patent law.

"When the internet age arrived, both the owners of intellectual property and the legal profession were confronted with a new reality - electronic files, music and images could be easily copied and distributed on a mass scale at the click of a button.

"The question is whether designers and manufacturers - and indeed the law - are equipped to deal with the same challenges. For example, if people can 'print' their own spare parts for cars, fridges or dishwashers, what will this mean for local manufacturers and suppliers?"

According to Delaney, copyright protection can be removed in certain circumstances, with the justification that functional articles intended for mass production should not get the very extensive protection of copyright law, which arises automatically, unlike designs and patents, which need to be registered.

"Generally speaking, it's not an infringement of copyright to make a plan or design by reverse-engineering a three dimensional object, such as a design drawing, as part of the manufacturing process, or indeed to make a replica of a design. In order to protect intellectual property in those instances, it often becomes necessary to fit within certain narrow exemptions or to rely on other types of registered intellectual property, like designs or patents.

"Because of this, it's vital that the design and manufacturing companies are aware of this technology and actively take steps to protect the intellectual property rights embodied in 3D articles."

Delaney says that intellectual property issues are just the beginning.

"This technology democratises the means of production. Think about how it could be misused if, for example, people were able to print off guns and ammunition, and how that could frustrate gun control laws, which are legislated on the assumption that people need to acquire these things from manufacturers.

"These issues aside, the technology also has the power to do a lot of good, particularly in the biotechnology space."

Dr Campbell says that biomedical uses will expand into being able to cultivate a patient's own cells and then re-introduce those cells into the patient through the printing of body parts.

02 July 2012
Previous article Next article