



## IP: 3D printing and potential patent infringement

Small skirmishes set the stage for much larger IP infringement cases

BY BRYAN J. VOGEL

Disruptive innovations are technologies that serve to fundamentally change the market — or create new ones. Cell phones, personal computers and Wikipedia are examples of true disruptive innovations. Though it has been around since the 1990s, 3D printing suddenly seems poised to become the next disruptive innovation. And, as happened with previous disruptive innovations, intellectual property law challenges will play a part in the fight for market primacy. Patent litigation will inevitably be one of 3D printing's primary battlefronts. Who ends up in the mix depends upon both the technology and legal theories involved.

### 3D Printing 101

3D printing uses CAD/CAM digital blueprint files or scans to build physical objects that cannot often be created any other way. Working like inkjet printers, 3D printers deposit a given material in successive layers, thereby assembling the physical object. Existing printers have built objects using materials like polymers, plastic, resin, food, precious metals, human biological material and nanoparticles. Additional base printing materials are limited only by imagination, as are the applications where 3D printing can be used.

3D printing has already seen wide adoption in multiple industries including manufacturing, aviation and the life sciences. Now, the technology has begun to cross over into the consumer market with the introduction of a variety of relatively affordable home printers. Several factors explain this wider availability. Some of the patents originating the technology have expired and further development on those inventions has taken place. In addition, technological advances from other areas have made key 3D manufacturing components more available. For example, the lasers used in stereolithography — one 3D manufacturing process — are also used in Blu-ray players, and those lasers have become less

expensive as Blu-ray entered the mass market.

### 3D printing and infringement litigation

In the last decade, the U.S. Patent and Trademark Office (PTO) has received more than 6,800 applications related to 3D printing. As yet, little (public) patent infringement litigation involving 3D printing has occurred. But the proliferation of 3D printing patent filings are sure to inspire additional rights contests between and against those who manufacture 3D printing machinery and its related enabling software, especially as the technology shifts from its primary industrial use and transforms to more mass consumer availability.

Early skirmishes may suggest the nature of future litigation. For example, 3D Systems, founded by the inventor of the stereolithography method of 3D printing, engaged in a seven-year infringement battle with competitor EnvisionTec. The parties "settled amicably" following a full trial on the issues, in which the district court entered a judgment of infringement against EnvisionTec. Recently, 3D Systems brought infringement litigation against Formlabs, the manufacturer of the first consumer 3D printer to make use of stereolithography.

To get the capital needed to move to production, Formlabs sought funding of \$100,000 on Kickstarter, a crowd-source funding platform. Eventually, Formlabs' funding efforts raised \$2.9 million dollars. That funding allowed it to move into production of the Form 1 printer, now available to consumers at cost of less than \$4,000. 3D Systems brought a direct infringement suit against Formlabs. 3D Systems also sued Kickstarter alleging that, because some funders received a printer for their investment, Kickstarter acted as a "sales agent" and is liable for "inducing" infringement. Settlement talks over the summer seemed to have

failed and further pleadings in the action are due Nov. 3. Like the smartphone wars before it, 3D Systems actions reveal how early technology holders may use litigation in addition to licensing and acquisitions to maintain or acquire market share.

And then there is the possibility of patent infringement litigation for an object or objects made on a 3D printer. Though that kind of litigation has yet to occur, commentators agree that it will once copying reaches a commercial scale. That litigation is sure to prove difficult.

First, like any other patent litigation, the patent holder with rights in the copied object will have to go through the potentially costly and time consuming effort now required to prove infringement of any asserted patent. Additionally, 3D printer users may be able to shield themselves from infringement litigation by using legal doctrines that allow reproduction of some elements of even patent-protected objects. Owners of a patented object may have the right to preserve the useful life of that object. They also may have the right to copy a non-patented part of an object that has both patented and non-patented components. Perhaps most surprisingly, production of a wide range of replacement parts for patented objects may also be allowed, even if the replacement activity is done on a commercial scale.

These and other obstacles may make the manufacturers of the printers or providers of the CAD/CAM files used to create objects more likely targets for patent litigation, especially when infringement occurs in the consumer market under indirect infringement theories. But indirect infringement cases have differing burdens of proof and potentially more stringent intent requirements — especially after the decisions in *Global-Tech Appliances, Inc. v. SEB S.A.* and *Commil USA, LLC v. Cisco Systems, Inc.* Proving

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actual knowledge of a specific, infringed patent may be difficult in the consumer market. As a result, though consumer use of 3D printers may create multiple instances of patent infringement, policing and protecting patent rights in inventions copied on 3D printers may present significant challenges for patent holders.

### Conclusion

3D printing's transformative forces have begun to arrive. As with other disruptive innovations, the changes it makes will not only impact market and culture, but will also serve to help shape the way patent laws protect innovation and prevent potentially unfair or unlawful reproduction.

### About the Author

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