



## IP: Five 3D Printing headlines and the law issues they raise

3D printing will continue to challenge IP and technology law as the legal landscape shifts

BY BRYAN J. VOGEL

From astounding scientific advancements to reality television twists, 3D printing keeps increasing its band-width. But 3D printing headlines sometimes raise complex intellectual property and related technology law questions. Digging into those questions shows that the answers to the legal issues behind 3D printing news are a lot like the technology itself — exciting, confusing and more and more part of the disruptive innovation zeitgeist.

### 1. Gartner Projects 3D Printing to Cause \$100 Billion IP Losses per Year

Analyst group Gartner recently projected that, by 2018, 3D printing will result in global annual IP losses of approximately \$100 billion. Made during the October Gartner Symposium/IT Expo 2013, the forecast was one of ten “Top Predictions for 2014” Gartner released.

As discussed previously, the difficulty of bringing patent or other IP infringement litigation against those creating infringing items on 3D printers likely played a part in Gartner’s estimate. First, there are the challenges and costs involved for any kind of patent or other IP litigation. Second, the lower cost and greater portability of 3D printers along with a growing range of printable materials will make it harder to locate infringers who don’t want to be found.

Additionally, infringement litigation against those using 3D printers will have its own, unique challenges. Various legal doctrines may allow reproduction of some elements of even patent-protected objects. The owner of a patented object may have the right to preserve the useful life of that object and may be able to produce a wide range of replacement parts for the patented objects, even if the replacement activity is done on a commercial scale. If a patented object has both patented and non-patented parts, there are no restrictions on reproduction of the non-

patented elements. As a result, 3D printing may create a «Digital Industrial Revolution» that threatens to reshape how physical goods are created and IP rights get protected.

### 2. Project Runway Finalist Incorporates 3D Printing into Design

On the reality television program Project Runway, the finalists in its clothing design competition create a collection for New York Fashion Week. This year, finalist Justin LeBlanc designed a collection featuring accessories created using a 3D printer. Inspired by LeBlanc’s experience with sound after receiving a cochlear ear implant, much of what was created on the 3D printer was intended to represent sound waves.

As with other fashion items that struggle to gain protection under existing IP laws, 3D printed fashion and fashion accessories will have to navigate copyright, design patent and other potential IP requirements to gain full protection. LeBlanc used the 3D printer to create both decorative neckpieces and more functional belts. The Copyright Act would likely protect neckpieces as a work of art because their sculptural nature is likely distinct from any potential utilitarian function. But it is possible that the belts could be more difficult to protect through copyright because, as functional items, the design elements must be “separable” to gain copyright protection. “Separability” is a legal question that has caused conflicts among the courts and can be expensive to prove and litigate.

3D printed accessories like those LeBlanc created could probably qualify for a design patent. Design patents provide 14 years of exclusive rights for new and nonobvious ornamental designs of functional items. But the examination process at the USPTO can take months and that may be too long in the fashion industry where ever-changing trends are the name of the game.

### 3. 3D Printers Create Lifesaving—and Life-Changing—Medical Devices

Doctors recently used a 3D printer and a biopolymer to create a tracheal splint and saved a baby’s life. A South African carpenter recently created a 3D printed “robo-hand” that costs about \$100 to print — and allows greater mobility than most approved prosthetics. In the first instance, the FDA provided emergency investigational device exemption clearance. In the second, an FDA blog reported on the “robo-hand,” but remained silent on any FDA approval or involvement.

The FDA has launched efforts to address how it will manage 3D printing and its impact on medical device approvals. Still, as more readily available 3D printing technologies meet consumer need and ingenuity, the FDA will likely struggle to retain control over the product of a new, wide range of medical devices, and traditional device manufacturers will face competition from the new innovators the technology facilitates.

### 4. Next Version of Microsoft Windows to Support 3D Printing

Microsoft has announced that the upcoming version of Windows 8.1 will provide native, plug-and-play support for 3D printers. Users will be able to run 3D printing projects on a variety of consumer printers like the MakerBot Replicator, the Cube, the Fabbster and Up printers, as well as open-source models, straight out of the box.

Some may conclude that Microsoft’s involvement may make it an attractive candidate for patent infringement liability under indirect infringement theories. But those kinds of claims may prove difficult given the level of actual knowledge required to hold an entity responsible under the indirect infringement doctrines of induced and contributory infringement. The U.S. Supreme

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Court has said that imposing liability for indirect infringement requires that accused infringer know about the patent-in-suit as well as its direct infringement. Moreover—according to the Federal Circuit—a good-faith belief of invalidity is evidence that may negate the specific intent required for induced infringement. These standards may make it less likely that Microsoft’s potential deep pockets will be the subject of consumer-based 3D printing infringement.

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### 5. Will 3D Printed Meat Follow Lab-Grown Hamburger?

Right after the announcement of an in-vitro grown hamburger came the news that another start-up is attempting to use biopolymers to create 3D printed meat and leather.

Before any of us can take a bite of a 3D printed burger or other biopolymer-based printed food item, the FDA will likely have to weigh in. Recipients of a NASA grant to provide food choice alternatives to astronauts on extended missions recently previewed a system that used a combination of shelf stable ingredients and other ingredients to print a “pizza”—but could not share samples because even this configuration of 3D printed food was awaiting FDA approval.

### Conclusion

The innovations 3D printing offers across multiple industries and applications will continue to capture headlines — and challenge IP law and regulatory agencies struggling to keep with the paradigm shift 3D printing has and continues to create.

### About the Author

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