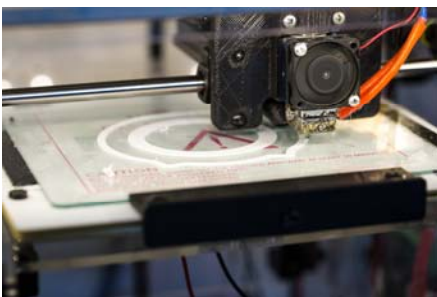


Designing your IP for Additive Manufacturing

After much hype and almost equal amounts of disillusionment, AM (additive manufacturing) is now finding real-world commercial scale application in an increasing range of industries. It goes without saying that those at the forefront of developing AM technology such as AM machinery, software and materials will be looking to protect their Intellectual Property (IP) in order to safeguard their technology from rivals.

However, those looking to use AM to produce their products (or whose competitors may be looking to use AM) also need to consider how this potentially disruptive technology can give rise to IP rights that may impact on their business.



What is Additive Manufacturing?

AM (also known as 3D printing) refers to a manufacturing process in which material is built up to form a 3D object. Typically this is done by printing a series of thin layers of material one atop the other and joining those layers together. This is in contrast to traditional subtractive manufacturing techniques where material is removed from a larger piece to produce the desired form.

Early coverage of AM focused on the idea of consumers printing a vast array of products at home. While this may still be some way off, metal printing is increasingly finding application in manufacturing for various sectors.

Sectors leading the way include aerospace and high-performance auto, but with advances both in AM technology and know-how, the range of sectors in which AM can be usefully employed is set to increase in the near future.

Design for Additive Manufacturing

It has become clear that it is not sufficient to simply use AM to print the part you have previously made using traditional manufacturing techniques. To gain the benefits of AM, design for AM is required. The removal of the design constraints imposed by traditional manufacturing techniques means long established designs can be

radically altered. In fields of technology where innovation has been incremental in the recent past this offers early adopters the chance to secure significant performance gains. If you are redesigning your products for AM then you should think about whether any of those changes merit patent or design protection.

IP Rights for Products Designed for Additive Manufacturing

In the early days of AM it was possible to obtain a granted patent for producing a known product using additive manufacturing. Given the increasing use of AM across a wide range of products that is unlikely to be the case for patent applications filed going forward, except in very limited circumstances. However, there remains scope to obtain broad and commercially useful patent protection for novel features of products designed to be made using AM. Such products often look and function differently from those produced using traditional manufacturing techniques. These differences between AM and traditional products may well be sufficient to attract patent protection.

Redesigning for AM often results in products that also look very different from those produced using subtractive manufacturing techniques. The use of AM may also allow greater freedom in terms of appearance giving the

possibility of creating a more distinctive look for products in your range. Registered Designs protect the appearance of a product and may offer useful protection for those designs having a distinctive appearance resulting from the use of AM in their production.

Patents and Registered Designs are so-called registered rights where owners have to take active steps to obtain protection that can be enforced against others. In the UK and European Union there are also unregistered design rights which arise automatically when a new qualifying design is created. Accordingly, products redesigned for AM may also attract unregistered design rights.

Freedom-to-Operate (Infringement) & AM

AM offers the opportunity to obtain patent and/or design rights for your redesigned products, but this opportunity is also available to your competitors.

“If you are considering launching a new AM product, particularly if that product differs significantly from what you have previously sold, then there is a risk your new product could infringe a patent and/or design right belonging to a competitor.”

In fields where innovation has been more incremental in nature in recent times the risk of infringing a

competitors patent, registered design or unregistered design rights may be seen as being lower. Such rights are more likely to be narrow with more scope to ‘work around’ them while still delivering similar benefits to customers. However, as discussed above, those who are first to take advantage of the design freedom offered by AM to redesign their products may obtain relatively broad patent or design protection. This is likely to be particularly disruptive in long established technology areas where change has been relatively incremental in recent years. Companies working in such fields may have taken a fairly relaxed approach to IP when planning the launch of a new product in the past. Going forward, such companies will need to take steps to understand and mitigate the risks that rights arising from AM products pose. Failure to identify such rights until after product launch may carry substantial commercial risk.

Customization & IP

A key benefit of AM is that the cost disadvantages of producing very short runs of products are significantly reduced. This opens the door to increased customisation. However, even for customised products there may be scope to obtain useful patent or design production. Careful thought will be required to ensure that the key features of a product are still protected while allowing for such customisation to take place.

Summary

Like any new technology, AM offers benefits for those businesses who adapt to the new reality, and poses risks for those who fail to do so. If you are redesigning your products to make use of AM, think carefully about how to protect that investment and talk to your patent attorney about how to do this. Even if you are not planning to use AM at the moment, your competitors may be and this may impact on your business in the long term if they are able to obtain broad patent or design rights which would limit your design freedom in the future. Before launching any new product, look to understand the likely risk that intellectual property rights may pose and talk with your patent attorney about how that risk may be understood and mitigated.



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