

# The Free Beginner's Guide

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MATERIALS

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VALUE

## 3D Printing Global Effects :

### Global Effects on Manufacturing

3D printing is already having an effect on the way that products are manufactured - the nature of the technology permits new ways of thinking in terms of the social, economic, environmental and security implications of the manufacturing process with universally favourable results.

One of the key factors behind this statement is that 3D printing has the potential to bring production closer to the end user and/or the consumer, thereby reducing the current supply chain restrictions. The customisation value of 3D printing and the ability to produce small production batches on demand is a sure way to engage consumers AND reduce or negate inventories and stock piling – something similar to how Amazon operates its business.

Shipping spare parts and products from one part of the world to the other could potentially become obsolete, as the spare parts might possibly be 3D printed on site. This could have a major impact on how businesses large and small, the military and consumers operate and interact on a global scale in the future. The ultimate aim for many is for consumers to operate their own 3D printer at home, or within their community, whereby digital designs of any (customizable) product are available for download via the internet, and can be sent to the printer, which is loaded with the correct material(s). Currently, there is some debate about whether this will ever come to pass, and even more rigorous debate about the time frame in which it may occur.

The wider adoption of 3D printing would likely cause re-invention of a number of already invented products, and, of course, an even bigger number of completely new products. Today previously impossible shapes and geometries can be created with a 3D printer, but the journey has really only just begun. 3D

printing is believed by many to have very great potential to inject growth into innovation and bring back local manufacturing.

## Potential Effects to the Global Economy

The use of 3D printing technology has potential effects on the global economy, if adopted world wide. The shift of production and distribution from the current model to a localized production based on-demand, on site, customized production model could potentially reduce the imbalance between export and import countries.

3D printing would have the potential to create new industries and completely new professions, such as those related to the production of 3D printers. There is an opportunity for professional services around 3D printing, ranging from new forms of product designers, printer operators, material suppliers all the way to intellectual property legal disputes and settlements. Piracy is a current concern related to 3D printing for many IP holders.

The effect of 3D printing on the developing world is a double-edged sword. One example of the positive effect is lowered manufacturing cost through recycled and other local materials, but the loss of manufacturing jobs could hit many developing countries severely, which would take time to overcome.

The developed world, would benefit perhaps the most from 3D printing, where the growing aged society and shift of age demographics has been a concern related to production and work force. Also the health benefits of the medical use of 3D printing would cater well for an aging western society.