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## A recycling revolution: 3D printing in a circular economy

**Michael Peter Down**

Manchester Metropolitan University, UK

The upsurge and augmentation of additive manufacturing and 3D printing have developed a new approach to manufacturing and the application of advanced materials. As such, large range of materials has become available for advanced applications from printing biomedical devices to electronics. Despite the wide range of the materials available, the representative value of the recycled material in the field is only minimal. Further to this, the failed print and calibration wastage significantly contributes to the collective waste plastics. Many investigations have demonstrated that recycled materials can be used for additive manufacturing, mostly homopolymer polymers, such as plastic cups and bottles. The truth, however, is that this is merely a drop in an already overwhelming ocean of waste plastics. Manchester Metropolitan University has been researching the application of advanced polymer composites from commercial and industrial waste plastics for additive manufacturing. The work presented here demonstrates the feasibility of the waste plastic to be utilized in additive manufacturing and prototyping.

M.Down@mmu.ac.uk