



Enthusiasts can make their own PETBot, purchase one ready-made or wait until the coming Kickstarter campaign | Photo source JRT3D

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## MACHINE TURNS PLASTIC SODA BOTTLES INTO 3D PRINTING FILAMENT

 COMPUTING & TECH

### A machine offers a way to recycle plastic PET bottles into filament for use in 3D printing projects

**Spotted:** While 3D printing offers almost unlimited opportunity for creativity and prototyping, one limitation is the availability and cost of filament. Now, NovaTech Machines and the 3D printing community JRT3D have partnered to develop PETBot – a small machine that recycles PET plastic, into filaments used for 3D printing.

PET (polyethylene terephthalate) plastic is used to make containers such as those used for packaging sodas, water, cooking oil – even tennis balls. Virtually all single-serving and 2-litre bottles of carbonated soft drinks and water sold in the U.S. are made from PET. To use the PETBot, the bottom is first cut off of a PET bottle and the open rim is pushed between a pair of bearings, where a cutter slices the bottle into one long strip, as a driven spool rolls it up.

The spool of tape is then moved to another part of the machine, which heats the tape and pulls it through a nozzle to form the filament. A fan cools the filament just before it is wound onto the spool. At the moment, the filament length is limited by the size of the bottle used, as longer lengths would require fusing two tapes together, which is not a simple process.

JRT3D explains: “With no more [purchasing of] filament needed, the PETBot machine allows you to make filament out of PET Plastic Bottles. [You can make] 3D prints from bottles of different colours and brands ...Currently we have customers in USA, Austria, Romania, Portugal, and Canada.” The site has also announced that it has plans to launch a Kickstarter soon.

As the world becomes increasingly inundated in rubbish of all types, there is a renewed urgency towards the recycling and reuse of materials. At Springwise, we are seeing this expressed in a wide number of innovations, from the recycling of **food waste** into new trainers to a company that repurposes old, **broken umbrellas** into new home furnishings.

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20th July 2021

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### **Takeaway:**

According to the UN, around the world, one million plastic drinking bottles are purchased every minute, and we produce around 300 million tonnes of plastic waste every year. While PET plastic is recyclable, a good deal of it ends up in landfills – and in the environment. While PETBot does not reduce this, it does offer a way to reuse the plastic that is already in the supply chain to create new things and could save a large number of bottles from ending up in landfills.