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Tech Talk

3D Printing

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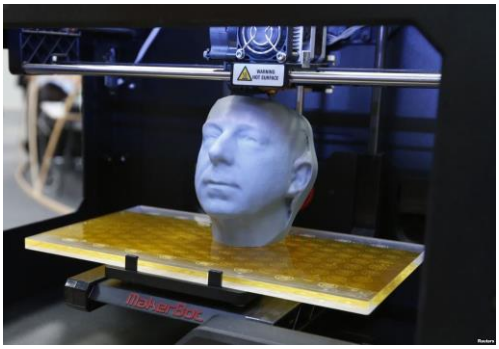

A new bridge will soon see the day among the 1700 other bridges of Amsterdam. But this new bridge is special. It will be built by using 3D printing technology, also called Additive Manufacturing. This bridge will be built only by machine. A six-armed robot will print the metallic structure of the bridge that will support the robot and will in turn build or 'print' the bridge as it crosses the river. The main objective of this is to show that 3D Printing is entering the world of big objects, with special sustainable materials.

The project has been developed by MX3D laboratories that studies the technology of 3D printing in the real world. The technology, developed by Joris Laarman, will allow industrial robots to "draw" in the air. If this bridge is successful, it could be brought into factories and onto construction sites. Fundamentally, the difference between this technology and the normal approach is that 3D printing traditionally takes place within a confined space whereas this project allows the printing to climb out of this 'box' where printed objects usually appear.

In 2013, the first prototypes of houses built with 3D printing appeared, even though the dental and jewellery industries had been using 3D printing technology to create very small objects with perfect precision. The project Amaze, created by the European Space Agency aims to use this technology on an industrial scale, to meet aerospace requirements for very high quality, rapid production and reduced waste.

According to the American army, tridimensional printing reduces 97% of production costs and 83% of production time. Today, the American Army is building "Mobile factories" which can fit into containers. These factories, called MPH, Mobile Parts Hospital, were developed when the army realized that was the easiest way to get many rarely requested, but vital replacement parts to the troops in the field. A little more alarming is the Texan student, Cody Wilson who managed to create a real life weapon with 3D technology. Most of the weapon was made of plastic, but the canon and butt were made of metal. He managed to shoot 6 bullets with it before the weapon disintegrated under the heat. Cody Wilson is considered one of the 15 Most Dangerous people in the world according to Wired because he published the blueprints on the internet.

But 3D printing is also a very important tool in the medical sector; the technology allows the creation of a material very similar to bone which can be used to create items such as artificial hips and personalized hearing aids. The Wollongong University in Australia for instance has managed to create a pen that can print stem cells onto injuries. BioPrinting is also being used in the creation of organs.

3D printing of course, has its limits; not everything is printable and certain techniques create a very harmful gas as a by-product.

In conclusion however, 3D printing will be a hugely influential production technology for many sectors, ranging from the medical sector to the industrial sector and not forgetting the weapons industry.