

Article

National Seminar on Smart City Seminar of 3d Printing

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A B S T R A C T

In this we are discussing on the topic of 3d printing. Like we use 3d printing in the field of medical and also in the field of construction of buildings.

Keywords: 3D printing, Construction, Defense, Medical, Manufacturing

Introduction

3d printing is invented by the person name chuck hull in 1986. This is the one of biggest invention in the history. Winsun is the one of biggest 3d printer in the world built in China. We build houses with the help of this 3d printer in less than 24 hours.

We make tissue, blood vessels, prosthetic parts, heart valve, ear cartilage, bones and medical models with the help of 3d printing. Synthetic skin is also invented. Printer scan the wound and makes skin layers to fill wound.

Fields of 3d Printing

Field where 3d printing is used is known as fields of 3d printing. The parts which are made by 3d printing are fine and accurate.

Field of Car Industry

With the help of 3d printers we make parts of cars. The parts are made by the 3d printing are fine, accurate and lightweight cause of this the parts are made by this process are in F1 racing cars. Lesser is the weight higher is the speed so parts are made by 3d printing in lesser time.

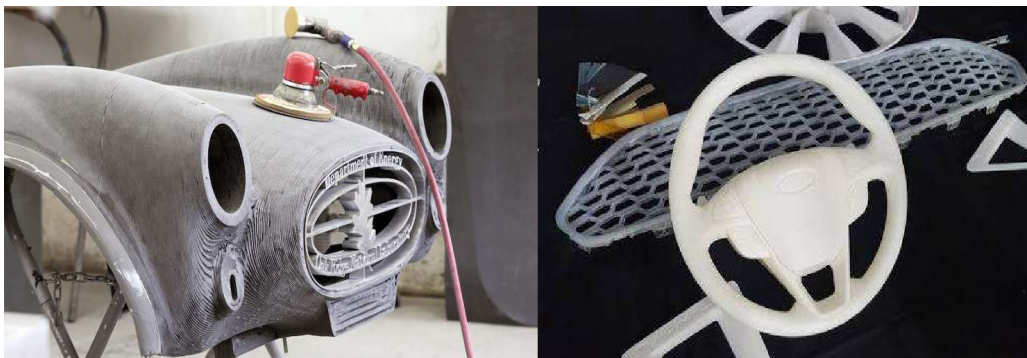


Figure 1



Figure 2



Figure 3



Figure 4

Field of Medical and Dental

In the field of medical 3d printing is very useful. Bones are made with the help of 3d printing. Tissues are with the help of 3d printing. Blood vessels are also made with the help of 3d printing. Surgical tools are also with the help of 3d printing. Ear cartilage is also made with this process people who lose his ear cartilage.

Low cost prosthetic parts are made very easily with the help of 3d printing. Lawrence Bonassar has printed a heart valve very soon it will be tested in a sheep.

Lawrence Bonassar use combination of biomaterials and cells. Synthetic skin is also print with the help 3d printing.

Field of Construction

3d printing is also very useful in the field of construction.

Buildings are made in hours. Buildings are made by 3d printer are safe and stronger. The prices of these buildings are also less. In future every single building made with the help of 3d printer. Winsun is the 3d printer use to make buildings. It is the biggest printer in the world. China made this Winsun printer.

Field of Defense

3d printing is also use in field of defense. With the help of 3d printing many type of weapons are made. The weapons are made by 3d printing are fine and cheap. Weapons are used by the soldiers in war. Many type of war machines are made with the help of 3d printing.

Advantages and Disadvantages of 3d Printing

We know that if some technologies have advantages it also have some disadvantages.

Advantages

- Parts are made with the help of 3d printing is cheaper in price.
- Parts are made with 3d printing is safe and fine.
- Many type of health problems are solved with the help of 3d printing.
- With the help of 3d printing parts are made in very short time.

Disadvantages

- Factories are made cause of this source of work is reduce and lesser jobs less employment.
- Cause of this crime is increase.
- Increase in pollution.
- Forest are destroy for factories lesser place for animals, lesser oxygen.

Application of 3d Printing in Smart City

- In first with the help of 3d printer we can make buildings for our smart city and make our city beautiful.
- 3d printer is also use to recycle raw material and make new things from this waste material.
- 3d printing makes prosthetic parts of our body parts. E.g. Suppose a person lost his hand or leg during war or works so with the help of prosthetic parts, he become able to do work or other jobs.
- If we want to secure our smart city then we need good quality of weapons. There is no chance of mistake in 3d printing.
- If the Parts of satellites are made with the help of 3d printing they are better they are lighter strong safe so we can say that 3d printed parts are better than simple made parts. Internet does not work without satellites. Internet is source of education and educated citizens are the base of our smart city.
- Many medical problems are solving with the help of 3d printing. Healthy citizen's good future and developed city.

The Future of 3d Printing

3d printing has a very bright future. In future it will use in every field. A day will come when each of us carry a portable 3d printer. It would print anything what we need. Believe me, this day isn't far away. A time will come when full house is printed with furniture in few hours. In future 3d printing will change into 4d printing. It is the biggest achievement. The bodies or parts are made with this 4d printer will change its shape according to the environmental conditions temperature and according to moisture. Example we made a solar panel with 4d printing. During day it will come in sun light when temperature is more and at night when the temperature is less it will go inside without any commands. 4d dresses are already printed. These dresses show movements so we can say that this printing have a

very bright future.

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