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3D PRINTING

3D printing or additive manufacturing is a process of making three dimensional solid objects from a digital file. The 3D printing industry encompasses many forms of technologies and materials. When most people think of 3D printing they vizualize a simple desktop 3D printer but that is just the tip of the iceberg. 3D printing can be divided into metal, fabrics, bio and a whole host of other industries. For this reason, it is important to see it as a cluster of diverse industries with a myriad of different applications [1].

So, the aim of our research is to present the perspective of using 3d printing technology in different industries.

Additive manufacturing invaded the food industry a long time ago. Restaurants like Food Ink and Melisse use this as a unique selling point to attract customers from around the world.

3D Printing is allowing for odd kinds of food to come about. Shape shifting pasta could be available at a store near you any time soon [1].

Car manufacturers, restorers and repairers have been utilizing 3D printing for a long time. Automotive industry experts only expect the use of additive manufacturing technologies to grow in the coming years. Companies are using it to produce not just parts, but tools, jigs and fixtures. It has also enabled on-demand manufacturing, leading to lower stock levels for spare parts [1].

The aviation industry currently uses 3D printing in many different forms. Boeing has been exploring the potential of printed parts and airplanes for a long time. Back in 2015 it was estimated that Boeing had more than 20,000 3D printed parts implemented in their airplanes. Boeing is also utilizing metal printing. 787 tons of printed titanium parts save the company 2 – 3 million per plane [1].

Can you print buildings? There are not many of them, but companies like Apis Cor are producing fascinating results. The company claims it can print a house within 24 hours. Currently, it lends out its machinery to various other firms.

Similarly, countries like China are experimenting with 3D printing in construction. A project by Shanghai-based WinSun uses recyclable materials to print houses for $4,800 dollars per unit. In this case, all the parts are printed separately first and later on assembled. [1].

The outlook for medical use of 3D printing is evolving at an extremely rapid pace as specialists are beginning to utilize 3D printing in more advanced ways. Patients around the world are experiencing improved quality of care through 3D printed implants and prosthetics never before seen. Even 3D pens are helping out in orthopaedic surgery. [1].

As of the early two-thousands 3D printing technology has been studied by biotech firms and academia for possible use in tissue engineering applications where organs and body parts are built using inkjet techniques. Layers of living cells are deposited onto a gel medium and slowly built up to form three dimensional structures. We refer to this field of research with the term: bio-printing [1].

If you want to see 3D printing applied in the wildest ways imaginable, look no further than at the aerospace industry. From materials to concept printers they are doing some of the most interesting, cutting edge research in the entire field, all for the purpose of making interstellar exploration more habitable.

Space travel requires an ultra durable exterior. Multiple organisations, such as NASA, have been perfecting the shielding on shuttles using 3D printers [1].

So, as we have discovered 3D printing is truly revolutionary for manufacturing, its cost, time and labor reductions positively transform the production in a way not seen since the industrial revolution. It is a great

time to be in the industry, as further materials developments and process controls evolve to further automation and perfection of 3D printing for the use in thousands of applications [2].

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ARTIFICIAL INTELLIGENCE IN OUR LIFE

Artificial intelligence is a branch of computer science that aims at creating intelligent machines. It has become an essential part of the technology sector. Artificial intelligence is a unique product of technological progress, which enables the machine to learn, using human and personal experience, to adapt to new conditions within its scope, to perform diverse tasks, to predict events and optimize different types of resources.

Most examples of the use of AI, known today, from chess computers to autonomous robotic systems, are still human-dependent and need in-depth training. However, even at the stage of their current progress, they globally affect the livelihoods of the entire society, forming new ideas about the future and the prospects for the development of modern technology.

What is AI today?

AI automates a continuous learning process

AI reliably, systematically and tirelessly performs large-scale computerized tasks. For such a type of automation, the human factor is still necessary to create an efficient and correct system for processing key queries and making appropriate decisions. However, this does not require as much effort as before.