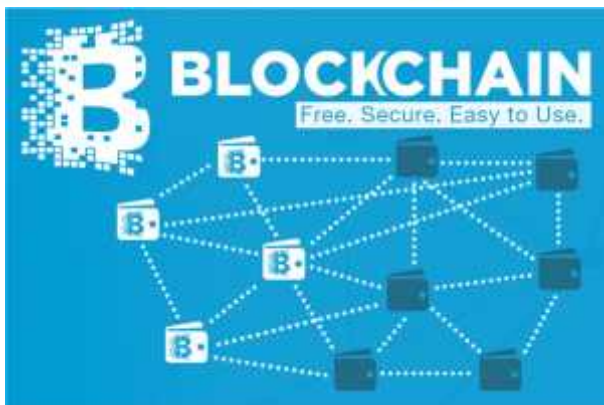


Future innovations

As we enter the fourth industrial revolution, it is vital that we develop shared norms and protocols to ensure that technology serves humanity and contributes to a prosperous and sustainable future.

Therefore, we will present a **TOP EIGHT** technologies/innovations that could soon be playing an important role in solving world's most pressing challenges.

1. The Blockchain



A blockchain is a distributed database that maintains a continuously growing list of ordered records called blocks. Each block contains a timestamp and a link to a previous block. Blockchains are “an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way.”

Much already has been made of the distributed electronic ledger behind the online currency Bitcoin. With related venture investment exceeding \$1 billion in 2015 alone, the economic and social impact of blockchain's potential to fundamentally

change the way markets and governments work is only now emerging.

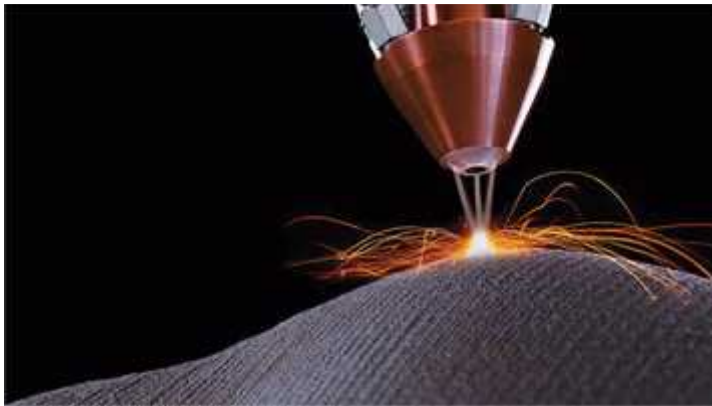
2.Nanotechnology



Is the science that study extremely small objects. Nanoscience and nanotechnology involve the ability to see and to control individual atoms and molecules. The results of research provides development in many areas like in medicine, biology, chemistry, architecture, and many others. WEF researched that one of the most emerging technology is the nanosensors. They are devices that can detect really small minute particles or miniscule quantities of something.

We can distinguish two types of nanosensors: the chemical and mechanical one. They are apply in areas like : pollution monitoring, medical diagnostic, monitor physical parameters such as temperature or in the production of airbags.

3. Additive manufacturing -The future of making things, from printable organs to intelligent clothes



Additive manufacturing starts with loose material, either liquid or powder, and then builds it into a 3D shape using a digital template. Bioprinting has already been used to generate skin and bone, as well as heart and vascular tissue, which offer huge potential in future personalized medicine. An important next stage in additive manufacturing would be the 3D printing of integrated electronic components, such as circuit boards. 4D printing now promises to bring in a new generation of products that can alter themselves in response to environmental changes, such as heat and humidity. This could be useful in clothes or footwear, for example, as well as in healthcare products, such as implants designed to change in the human body. Like distributed manufacturing, additive manufacturing is potentially highly disruptive to conventional processes and supply chains. Rapid growth is expected over the next decade as more opportunities emerge and innovation in this technology brings it closer to the mass market.

4. Next generation batteries



One of the greatest obstacles holding renewable energy back is matching supply with demand. In many places, renewables are dealing with vital problems because of the lack of an affordable, reliable technology to store the excess energy that they make when conditions are ideal and to release the power onto the grid as demand picks up. Better batteries could enable emissions-free renewables to grow even faster.

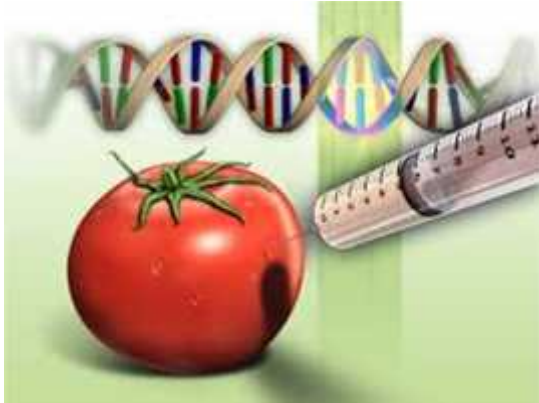
New batteries have been demonstrated that deliver high enough capacity to serve whole factories, towns, or even “mini-grids” connecting isolated rural communities. These batteries are based on sodium, aluminium or zinc. They avoid the heavy metals and caustic chemicals used in older lead-acid battery chemistries. And they are more affordable, more scalable, and safer than the lithium batteries currently used in advanced electronics and electric cars.

5. Transportation



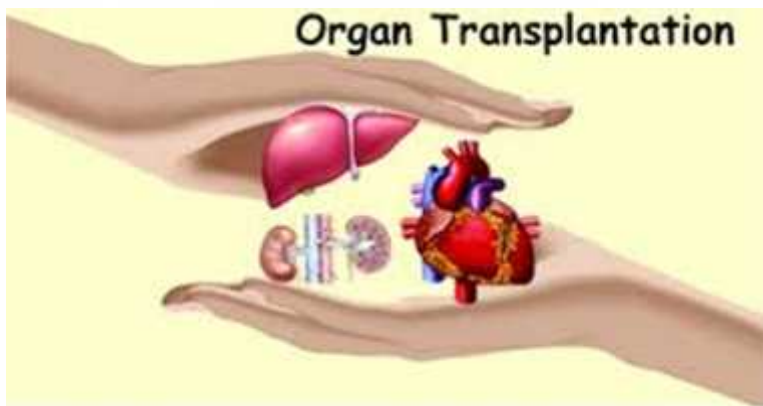
One of the biggest problems is that cars and other vehicles pollute the environment. Scientists work on new solutions for this problem. One proposal is the electric car. They also work on solar vehicles. Another problem is to increase the speed of transportation. There is a big need for improvement in this area. There are already some proposals like, for example, hyperloop – the train that goes through a reduced-pressure tube. Inventors expect that it will reach a speed of 1220 km/h. An interesting innovative idea is also the design of autonomous vehicles. This advent has potential for saving lives, cutting pollution, boosting economies, and improving the quality of life for the elderly.

6.The genetic food



While the population of the world is growing very fast and the rate is going up every year, our planet has been meeting the problem of hunger and limited access to food. Genetically modified food is a one of the biggest breakouts in the food and farming industry. Genetically modified food increase the amount of products being produced along with its quality, energy values, growing time and most importantly the places the where the products can be farmed. Higher quality and energy values decrease the amount of food intake per capita along with decrease of price per product. Genetically modified food allows to produce food in areas of natural hazards, low mineral soils and in places where the amount of water is limited or there is excess of it.

7. Transplantation



Transplantation is a field of medicine that is developing really fast nowadays. The one of innovation that helps expanding in this area are organs on-chip. They are really small models of human organs – the size of a memory stick that allow to researching the new methods of transplantation without using the real human organs. They are also working on new methods of resources donor organs and on the way to transplant new important and hard to transplant organs. They are even scientific research about transplantation of human head.

8. Artificial Intelligence



Artificial intelligence (AI) is intelligence exhibited by machines and is progressing rapidly. Devices will be increasingly

capable to perceive their environment and take actions that will maximize its chance of success at some goal. AI is already being integrated in a majority of application and the future is bright.

The areas that we describe in our work they are only examples of newest innovation. They are a lot of many different developments. The one of good sources that we can find information about it they are research analysis published by World Economic Forum. Base on this information we can see what areas provide the needs of establishing new business and what of them can be really profitable.

Thank for your attention 😊

Project made by participants
of New Youth Skills
Exchange, Poronin 2017



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