
Impact Of Technology On Society In 20 Century

Over the last twelve thousand years planet earth has seen more innovation than anyone would have ever imagined. We can now call people whenever we please just about wherever we please, with a cellphone that is smaller than our hand and not all that much thicker than a loonie. Over the last decade the technology we use everyday has gotten faster, lighter and more energy efficient. The amazing people making the unthinkable possible are the Engineers of today's society. These different types of engineers work together everyday to innovate and create devices to better the day-to-day lives of civilians.

However, over the next thirty-two years engineers will be faced with the hardest task of all time. That is how we are going to innovate our world to accommodate a growing population of nine-billion people by the year of twenty-fifty, and how are we going to feed all those people. Two of the most important things engineers must innovate to feed and sustain nine-billion people are automobiles and farm land. The innovation of the automobile is a fascinating topic, the first few automobiles were first created in Europe in the early eighteen-hundreds, but they were much too expensive for most to afford so the main mode of transportation for most was by bike or by horse. It was not until the mid 1800's during the industrial revolution that the automobile began to really take off and become popular. This was because until industrial engineers worked on ways to create machines that could do more work in the same amount of time as a human people used other modes of transportation such as horses because cars were much too expensive for most to own. The textbook Engineering Your Future states, "It took until about 1911 when a man named Henry Ford incorporated industrial ingenuity and the automotive industry by creating an assembly line made up of machines and people maximizing efficiency"(Oakes 12).

Once maximum efficiency was reached the Ford plant was able to produce the Ford Model T cheaper and faster than ever seen before. Since Ford Model T's were being produced so efficiently a domino effect began and many other companies of different sectors in the industry started to implement the same practices as Ford. Companies like John Deere and Case started producing farming equipment faster at prices more appealing to farmers. As farmers started implementing tractors into their daily routine, less manual labour was needed, thus decreasing overhead and increasing efficiency. Life changed as everyone knew it in the early 1900's during the industrial revolution when products were being produced faster and cheaper, while automobiles were more affordable engineering a world that could produce and transport all types of food to destinations all over the world. Currently our global population is about seven billion, it is estimated that by twenty-fifty our global population will rise to about nine-billion.

A major question is how we will feed nine billion mouths in the next thirty-two years, the answer is we will need to change our ways and innovate our world to compensate for two-billion more people. As described, automobiles are arguably one of the most important inventions of all time and are vital to transporting food to people all over the world. Unfortunately, they have also proven to be one of our environment's worst nightmares. Automobiles emit very hazardous gases including carbon dioxide and greenhouse gasses, these pollutants according to the National Geographic article on Car Buying Guide "Matter from cars can affect the reproductive, respiratory, immune and neurological systems of animals and humans by attacking our water

systems and soils. ” As important as automobiles are the footprint they leave on our environment is not sustainable for our future. Not to mention our natural gas resources needed to power these vehicles are extremely limited, and if we run out our gas/diesel powered machines simply will not move. This is a major concern, and engineers all over the world have been working extremely hard over the last decade to perfect the electric vehicle. Tesla, GM and Nissan have made some great innovations with creating an affordable car that is fossil fuel free.

However, the challenge remains the transport trucks that deliver goods and food too people all over the world rely heavily on the use of fossil fuels and if we run out of these fossil fuels we will completely lose a vital source of transportation. However, in late twenty-seventeen Swedish engineers, came up with the brilliant idea of “electric highways” which means transport trucks that are powered by overhead wires on highways, and when not on highways they return to a hybrid diesel mode. When in the Hybrid diesel mode, “the transport trucks can drive up to one hundred and fifty kilometers before returning to the fossil fuel source. ” According to Derek Clouter’s article on truck news. com. The ingenuity demonstrated by the Swedish engineers is extremely impressive and is very promising as we begin to prepare a way of transporting food to nine-billion people by the year twenty-fifty. Although the practice of electric highways has not been used in parts of the world other than Sweden and as it is not completely electric, it is a major step forward for society, although we need to keep working toward a completely electric alternative for transport trucks. The earth currently is home to six-billion people globally and that number is expected to rise over the next thirty-two years to nine-billion.

The question is how we will feed nine-billion mouths when according to Alice Weatherson’s article on the British Council “Over 800 million people worldwide are undernourished. ” To many the answer is simple “produce more food”, but this is not possible when looking at the big picture. With a population set to drastically increase, this will mean society will have no option but to start developing more land to house schools, malls, hospitals and sub-divisions for people to live in and enjoy. However, these facilities are set to be developed on farm land that is currently used to grow and cultivate crops. This is extremely worrisome because with less farm land to grow crops on we will not be able to produce enough food to accommodate the increased population. As well as the vast amount of natural disasters we have encountered over the past few years and the unpredictable weather forecasts due to global warming which have ranged from extreme rain to extreme droughts, thus causing a major decrease in crop production in past years. As well as the unpredictable forecasts, to be a major problem in many countries is that most types of farming can only be done at very specific times of the year. For centuries the farming industry did not change very much, farms were known to be in rural areas and have farmers in straw hats on tractors.

Unfortunately, the practice of traditional farming will not be reliable enough for our future population growths. Due to this concern, engineers have been working to innovate the farming world to a method called Vertical Farming. The definition of Vertical Farming is “The practice of producing food and medicine in vertically stacked layers, inside structures (warehouses, shipping containers etc.)” (VerticalFarming. Net) The practice of vertical farming utilizes the base, width and height of an area leaving little to no space unused. Plants are grown inside to be completely safe from the outdoor elements such as predators and extreme heat, as well these facilities are set up with humidity controls and LED lights that can radiate the perfect amount of heat. Stimulating the photosynthesis process, and of course these facilities are equipped with irrigation systems ensuring plants are getting the perfect amount of water. According to the website Powered by Plenty the technology company Phillips created “The

green product line that include special bars which include inter lighting, top lighting and tissue culture. ” These LED light bars are designed to radiate the optimum amount of heat that engineers think would maximize growth for certain plants, these type of LED bars can also be programmed to the type of tissue the plant is made up of so it can generate the right amount of heat in the proper areas.

What is even more impressive is that the whole facility can also be powered by solar energy. The creation of Vertical Farming is a great innovation to prepare for future population growth, it is a very sustainable innovation that does not rely on any type of fossil fuel and is completely powered by the sun. To put the efficiency in perspective Doug Moss of Earth Talk performed a study comparing that practice of traditional farming to the more modern Vertical Farming and concluded “we’re growing in 16 days what otherwise takes 30 days in the field. ” The number regarding how a Vertical Farm can improve efficiency speaks for itself, but the problem we come to is the current price for a facility incorporating all the elements of a Vertical Farm producing fifty percent more efficiency

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