

21st Century Innovation Needs

Jyoti Tandukar. Ph.D.

Technological development is still at its infancy in this 21st century. A lot of young people still die of diseases and accidents, we still get stuck in hours of traffic jam, the side effects and long term effects of so many drugs and chemicals that we use today are unknown, the atmosphere of biggest cities of the world are polluted, we do not yet know much about even the planets near us, and about the bottom of the oceans on earth itself, the computers do still have difficulty in recognizing faces and interpreting voice commands. Ironically, though, back in 1899, the director of the US Patent Office assured President William McKinley that “everything that can be invented has already been invented”.

More than a century after that, we are still seeing a lot of new inventions that are changing the way we live, communicate or do business. And these inventions are unfolding newer possibilities and challenges that nobody would have imagined just few decades back.

Adapting to changes brought forth by exponential development of technology will become more and more challenging issue in the days to come. Those who do not have access to technology as well as who could not adapt to the fast changes will be left behind forever.

For many, language is a big barrier. The need to learn new skills is another equally big barrier. Therefore, developing non-technical computing will be very important for the future. This means, no training should be required to use computer, as human will be able interact with computer in the same way as they do with each other. Any technological development in this direction will be a big contribution to humanity.

The issues of degrading environment, climatic changes, and depleting natural resources will also need to be addressed by development of new technologies. Waste management is one of the biggest environmental issues. A machine to process household waste within the house itself will get the government rid of one of its largest burdens. Similarly, a machine that can decompose materials into their atomic level, and use the same as raw material to construct another material in desired shape and size will also be a blessing. If the materials used in wrapping, shielding, protecting, packaging and carrying commercial goods could be recycled this way, many industries may go bankrupt, but that will still be a profitable business for the human. Treatment of industrial waste and hospital waste are two other biggest environmental issues that need to be addressed by the development of newer technologies.

Addressing to climatic changes through self-awareness in public, industries and government still seems to be a mountain task. Instead, Anjit's imaginary machine that eats up carbon dioxide could be a possibility. Best, if it consumes carbon dioxide and environmental heat to manufacture diamond and exhaust oxygen as its byproduct.

Looking at the speed at which industries are using up volumes of natural resources to produce newer electronic chips, cell phones, computers, cars and machinery, and at the speed at which these are also becoming obsolete every day, there are going to be mountains of thrown away gadgets and machinery. With an abrupt shift in technology in next couple of decades, this volume is set to grow exponentially. Where will we throw those about a billion gasoline motor vehicles, and more than a billion CRT TVs, and desktops monitors? Where will we throw all those cables that have entangled every city and those power adapters that have entangles every household and individual, as we move towards wireless communication and low power devices? Therefore, a technology that can update existing technology is essential than the one that replaces. Instead of producing newer technology using fresh raw materials, we should figure out a way to upgrade the existing devices and machineries themselves.