

## **Prediction for what is going to happen in the next fifty years.**

I shall try to predict only on science and technological development leaving aside other aspects of life. Looking back at the situation fifty years ago, I don't see much improvement on social life of people. Still people are starving, dying without any health care treatment, fighting very hard to earn reasonably comfortable living, still people fighting and killing each other on the ground of race, religion, nationality and other differences. We have not still learned to live in peace and harmony. I don't hope there will be much improvement in the next fifty years on the social aspect of life.

However, in the field of science and technology, the picture will be completely different. There will be a significant development on science and technology in the next fifty years. I am almost certain people will be able to reach other planets like Mars and possibly Venus. However, I do not believe, people will be able to live or make a colony in the Mars or not even in Moon due to adverse environment there. There will be a lot of improvement on automobiles. In USA and Canada, probably more than fifty percent cars will be self-driven, with no need of a driver. Out of all the cars on the roads, more than 80 percent will be all electric, 10 percent hybrid and rest 10 percent will be fossil fuel driven. There will be substantial development in the battery technology, they will be much smaller and lot more powerful. Because of tremendous development of battery technology, the requirement of emergency or standby generators will be almost eliminated. I also predict a lot of improvement and development of solar power. Almost all the new homes, especially in USA will be provided with solar panels. Probably fossil fuel power plants in USA will almost extinct; most of the power plants in USA will be nuclear, hydraulic, and solar or wind driven.

Another area of development will be wireless communication. Almost all the new communication will be wireless, leaving behind only old communication wiring in the old commercial buildings, industrial facilities, and homes. Almost all the lights, fans and appliances in the homes will be remote operable. One NRI will be able to turn the lights, air conditioner or water heater of his home in USA off or on using his cell phone while visiting India and spending nice time with his old college friends. He won't have to tell his neighbor to collect the mail, and keeping an eye on his home while he is away. There will be a lot less use of paper, ink pen and books. People will be more familiar with the use of their own personal computers, tablets or I-pads and cell phones.

In the medical field, there will be also lot of developments. Probably, all types of cancers will be curable. Artificial limbs will be a lot less clumsy, will look almost natural. Artificial heart and other artificial alternative of internal organ of the body will be more common. The life expectancy of more than 90 will be normal, so many people will live past 100 years.

There will be a lot more sophisticated toys for the children to play. They all will be provided with small computers with a lot of amazing features. There will be a lot more development in the technology of military aircrafts, military vehicles, naval ships and submarines, military

spying drones and other auxiliary weapons. The military missiles will be of lot longer ranges, with high accuracy and speed.

### **Additional prediction as Electrical Power Distribution Engineer**

As an electrical power distribution engineer, I like to make some additional predictions. I prefer to restrict these additional predictions only to the people who are familiar in electrical power distribution systems. I predict that all the electrical circuit breakers and circuit interrupters in the outdoor or indoor substations and the major switchboards will be smart type with ability to monitor current and voltage. Each breaker will be provided with its own current transformer, voltage transformer, battery and battery charger. They will be all remote operable. They will have the ability to communicate with other breakers in the substation or switchboard and also with a central monitoring computer either in the substation control room or facility control room. They will have the intelligence to decide whether to trip or not to trip based on the current and voltage information, and also information available from other breakers and direction from central monitoring computer. Since all the communication will be wireless, there will be no communication or signal cable. There will be no protective relay since the breakers will have their own intelligence. The electrical engineer for the substation or the facility will be able to monitor and operate them remotely from their office computers or cell phones.