

Making the Future 2

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Like many engineers I was inspired to get into technology partly due to the Science Fiction books I read when I was young. I try to keep up with the genre now, but it is difficult to find the time to read all of the great new SF stories as well as watch all the new movies and TV shows. These stories inspired me to think what life would be like with new technology and to want to have a hand in creating the technology that would enable the future. I was not alone. I am sure that many of my readers were also inspired (and frightened) by the worlds of tomorrow...

Today the tools available to us exceed greatly those of the past in terms of their precision and scale. As a consequence, we have detected gravity waves with transcontinental measuring devices and may soon have gravity wave observatories that, combined with electromagnetic and other observational devices (including satellites), can probe the deepest secrets of space.

For designers of electrical devices we have development kits that span the needs of hobbyists to professional system designers. This has spawned a whole generation of makers and hackers who don't consider that they own a device unless they know what makes it work and can program and fix it themselves. While most users of modern consumer products don't have such interests there is a growing group that do. These are a new breed of inventors and engineers. The ultimate goal for many of these creators is to program devices and perhaps ultimately matter itself.

Technology and its applications create wealth and this wealth in the hands of curious and ambitious people can lead to bold and innovative approaches. These include the creation of many ways to provide universal Internet access using satellites, balloons and drones promoted by companies such as Google and Facebook. This also drives the creation of driver assistance technology and ultimately cars that drive themselves.

SpaceX, Blue Origin and Virgin Galactic along with many other companies are working to create a commercial space industry with goals of inexpensive satellite launches, space tourism and ultimately the mining of extraterrestrial resources and mankind's move to new worlds. Ultimately these efforts will move mankind towards a full Type 2 civilization where we control the resources of our solar system and generate new levels of wealth and opportunity.

The future is enabled and shaped by engineers. It is our responsibility to create tomorrow's technology, but also to clarify the ethics of how technology should be used. IEEE is working on shaping the future as well as developing public policies to make these technologies serve the needs of humanity. However IEEE is not some abstract entity, it is an organization of individual people. We need your help and imagination in the IEEE to create this future and a better life for future generations.