

What is technology?

Technology is about taking action to meet a human need rather than merely understanding the workings of the natural world, which is the goal of science. Technology concerns itself with understanding how knowledge is creatively applied to organized tasks involving people and material resources that meet sustainable goals.

Sociologist Gerhard Lenski has defined technology as “information about how to use the material resources of the environment to satisfy human needs and desires” (Nolan and Lenski, 1999)

According to Horton and Hunt, “Technology is the use of scientific discoveries to solve practical problems”.

In a word, we can say technology is the comprised of the products and processes created by engineers to meet our needs and demands.

Many people regard technology as simply applied science. In their view, scientist produce knowledge and then technologist turn it into important products and devices, such as computers and spacecraft. However, we see science did not begin to be systematically incorporated into our production system until the middle of the nineteenth century. If technology is simply “applied science” we would have to conclude that there was no technology before that.

In fact, quite complex and sophisticated technology was needed to build Pyramids of Egypt, The Great Wall of China and the ancient irrigation

systems of India and Sri Lanka. Such knowledge was based on craft rather than science with knowledge being slowly accumulated, applied, and passed on from one generation to the next.

The importance of science and Technology

Most people would agree that science and technology are of great importance in the world today. Some highly developed countries such as Sweden and Switzerland spend 2 to 3 percent of their gross domestic product on science and technology. Australia spends about 5 billion a year (1.34 percent). These large sums tell that decision-makers in government and industry are strongly convinced of the importance of developing science and technology.

Science can alter the entire conception of us and our place in the universe. The most famous instance of this was the series of events known as the Scientific Revolution. During this turbulent time in the sixteenth and seventeenth centuries, Galileo and other scientists began to argue that the earth was not at the center of the universe, but whirled on its own axis and orbited around the sun. Physicists now believe that the universe has arisen as the result of a huge explosion, the Big Bang. Life has been discovered from the planet Mars. Whatever the future holds, it seems certain that science will play a major part in shaping our view of the universe and of ourselves.

In the nineteenth century, science-based technology began to transform whole industries. In this century, it has made warfare far more dangerous- indeed, a major nuclear war could wipeout all human life- and has changed virtually all aspects of our lives. We have seen the rapid onslaught of computerization and tele communications. This has created a worldwide net of communication and wipeout employment for many millions of people throughout the world. Modern pharmaceuticals can cure diseases, which terrify our ancestors, and sometimes other diseases arise from the effects of the drugs themselves.

We all are familiar with terms such as the progress of science or the onward march of technology. We tend to forget that all scientific knowledge has been produced by people thinking, believing, arguing and sometimes making mistakes. Science and technology is not the product of some unstoppable force but are human products, which both shape and are shaped by the society from which they emerge. For this reason, we should have some understanding of the links between science, technology and society whether we are scientist, engineer or simple people who every day and in many ways experience the effects of science and technology.

