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NOVEL IMPLICATIONS OF SMALL SATELLITE TECHNOLOGY - A COMPREHENSIVE STUDY.

Abstract

Every technological innovation has tremendous implications on our lives. They have the potential to make our life comfortable, safer and also help us earn our living. This paper will discuss one such technology of tomorrow in which vests enormous potential to impact lives in a positive way. The innovative technology being discussed here is the small satellite system.

Space Revolution has constantly pushed the limits of science and technology that has given rise to novel technological concepts. Current efforts focus on developing systems that are mission flexible and cost-effective. Small satellites satisfy both the requirements. Their small size makes them inexpensive to launch and are usually launched as secondary payloads. They have proven to be an effective test bed for new technologies, which is an essential quality for a space system.

These remarkable features has motivated the space industry to further develop this concept. With an application ranging from inter-planetary missions to space debris removal to communication networks in deep space, small satellites will surely have a positive impact on the financially struck space industry. The future of space exploration is small satellite technology. More than 1000 small satellites are proposed to be launched in the next five years which made companies such as SpaceX and Virgin Galactic propose ideas to materialize them. This will require infrastructure development, skilled manpower, technology transfer and many other requirements. As a consequence, numerous jobs will be created and there will be substantial revenue generation. Increased activity in the allied sectors to space will take place too.

This work will study these effects in detail. Historical review of cubesats with its future applications and the requirements for such missions will be performed. Then, the investment that is required for such technologies will be discussed and how this will benefit the users down the line will be shown. Policy modification and formulation that can be expected will be discussed. A systematic and standard approach will be adopted for the analysis and will be shown that small satellite technology will have significant socio-economic impact.