Paper ID: 49432
student

IAF SYMPOSIUM ON INTEGRATED APPLICATIONS (B5)
Satellite Commercial Applications (3)

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SOCIO-ECONOMIC BENEFITS OF SPACE ACTIVITIES IN THE ASIA-PACIFIC AND AFRICAN REGION IN THE 21ST CENTURY : A CASE STUDY BASED ON EARTH OBSERVATION SATELLITES

Abstract

Since the beginning of the 21st century, countries across the world are continuously technologically developing in an effort to prosper economically and meet the needs of their citizens. There has been an exponential increase in the number of satellite launches for Earth observation purposes. These satellites are launched for various applications such as meteorological observation, forest mapping, remote sensing and ocean observations. With the help of space technology, many lives have been successfully changed, including those living in large cities and those inhabiting smaller communities. Thanks to weather satellites, an approaching storm or typhoon can be detected and necessary action be taken to secure the periphery and therefore minimise human and material damage. Space technology has shaped our lives in multiple ways and will continue to improve human safety and quality of life. For instance, one major project of NigeriaSat-1, a Nigerian satellite launched in 2003 from Russia, is to map urban and rural land use in the country, offering important data to improve understanding of environmental, housing and agricultural issues. The Indian Space Research Organisation (ISRO) is putting measures in place to move towards sustainable development on the subcontinent. It includes conversion of wasteland into solar power generation locations based on data from the Indian remote sensing satellite, IRS LISS III, and tracking of cyclones, to allow for advanced warning of dangerous weather. This research will discuss all the satellites launched by Asia-Pacific and African countries in the 21st century that have identified, or helped to resolve a problem faced by these countries. All the major Earth observation applications will be discussed along with the issues these satellites are addressing. This will elucidate key trends in satellite launches in the Asia-Pacific and African regions, which will be used to predict how satellites may be used in these regions in the future, as they strive to achieve sustainable development.