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EXPLORING SMALL SATELLITES FOR THE ADVANCEMENT OF SUSTAINABLE
DEVELOPMENT GOALS

Abstract

The United Nations (UN) has spearheaded an intergovernmental agreement to achieve a set of seventeen aspirational "Global Goals" with 169 targets by 2030. These popularly known as Sustainable Development Goals (SDGs) were adopted on 25 September 2015 by the 193 countries of the UN General Assembly. SDGs include several important global issues including ending poverty and hunger, improving health and education, making cities more sustainable, combating climate change, and protecting oceans and forests, among others.

These developments are a time when the trajectory of growth of space assets are on an exponential curve with more than 5000 satellites projected to be launched within next decade. A major portion of these assets are small satellites platforms which are being deployed in constellations for several applications including Earth Observation (EO), communications, meteorology, etc. With the proliferation of small satellites based sensors/platforms in outer space, exploiting space-based assets as potential tools for advancement of SDGs in several of the listed goals and targets becomes feasible. These space assets provide an unprecedented opportunity be leveraged as tools in increasing transparency in governance and provide a foundation to enhance exploitation of space for the benefit of man and society.

The present work reviews the potential of exploring small satellite based sensors/platforms in advancing the achievement of these identified and adopted global goals. We take an approach on fusing technology and policies to provide a comprehensive perspective in the dimensions of environmental, social and economic spheres under the purview of Sustainable Development Goals.