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IN EMERGING EO NEWSPACE GLOBAL MARKETS - CHALLENGES FOR INDIAN REMOTE
SENSING SYSTEMS**Abstract**

Indian Remote Sensing (IRS) satellites have been providing various types of IRS images – wide-field and high repeat multi-spectral images; moderate resolution multi-spectral data; high resolution panchromatic and multi-spectral; panchromatic stereo images; Synthetic Aperture Radar (SAR); ocean colour images, scatterometer data and many others. The data are received at Indian station and also at polar receiving stations – data is processed and disseminated from the processing centre at Hyderabad. Within India, IRS images are priced low and are widely used; across the world the use of IRS images are through cooperative arrangements. The average turn-around for moderate- or high-resolution images is 7-10 days. A Remote Sensing Data Policy (RSDP) defines the scheme for IRS data dissemination to users in India.

Globally EO business in NewSpace era have not only been commercial but have gone e-image portals – bringing high efficiency using advanced image processing and internet technologies. Spurred by US DigitalGlobe and WorldView, French SPOT, European Sentinel, other commercial systems like Rapideye, Planet etc, global EO is now focussed on high-demand geospatial markets and providing high resolution panchromatic/multi-spectral images with very high cadence/frequency of global coverage AND real-time image availability. The trend is for IMAGES ANYTIME ANYWHERE with real-time geo-rectification, seaming, organising and making available images as they stream or within 24-48 hours of image acquisition. Google offers online Landsat image archive from 1980 onwards for immediate access.

These global developments in EO imaging and dissemination can be “disrupting to IRS”. Even as Indian EO is making significant shifts by continued space segment deployments, strengthening of ground segment, online Bhuvan geoportal - all for “easier access” by users. The characters of NewSpace EO developments have not been fully addressed in the IRS environment and fragmented nature of value generation is becoming glaringly apparent. In a highly subsidised environment and lack of competitive business models, IRS could easily slip-down to an “average national endeavor” and loose impact in the global NewSpace environment.

We assess markets of traditionally strong national programmes - like IRS that will need re-definition to be able to compete and be relevant in the NewSpace era. The paper assesses the evolutionary trends and market opportunities for IRS, maintaining “leadership” in EO, need for win-win relation between government and Indian industry, deregulation of IRS data access for energising industry and even licensing private Indian EO systems. This paper presents a strategic analysis of NewSpace implications for IRS.