



Vibrant India

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General NC Vij ,PVSM, UYSM, AVSM
Director, VIF



Dear Readers,

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From the post-independence days of extreme destitution, the nation has risen by long steps. This progress has been made notwithstanding the ups and downs that any fledging democracy, rising from illiterate, economically devastated and socially exploited masses, must endure. That the progress has been achieved while caring for our ever burgeoning population and tough international competition, is in itself a matter of note. Presently, there are visible signs of the momentum of all round developments, which had been somewhat dampened in the past few years, picking up once again. No doubt, the climb is long and tedious, and therefore to succeed, the endeavour needs to be strengthened with objective perspectives and indomitable spirit among our citizenry.

We, in the Vivekananda International Foundation, are committed to stimulate a sense of self-esteem and national pride among our fellow citizenry. Of late, that cause is further justified by a trend of the spread of superficial and instant perceptions among the people-at-large. The situation is not helped by the propagation of titillating 'items' in social and electronic media. Thus we have misinformed insinuations and criticisms blanking out genuine efforts and achievements made by the nation's institutions in various fields. The result is that: One, true pictures of events and developments get obscured by sensationalism; and two, achievements to be proud of go unappreciated, even dismissed at times.

I have been thinking over this issue for some time in order that we can do something to measure the nation's achievements and present these in a rational manner for the readership to take note. Accordingly, we have undertaken to pen down the nations' notable developments - nascent, ongoing and those coming to fruition - for the people to appreciate. The topics may range from employment, health, education, social uplift, technology, industry, economy, defence and so on.



Just as every Tuesday we upload articles on governance on our website under the heading of 'Policies and Perspectives' and a fortnightly Wednesday overview under the heading 'Director's Pick', these articles would be uploaded every Friday under the heading 'Vibrant India'.

We hope that these glimpses of a 'Vibrant India' would be found interesting.

Yours truly,



*General N C Vij
Director, Vivekananda International Foundation
New Delhi*



India Has Its Own Navic

While the naysayers have been constantly drumming up what's wrong with India and as to why India can never improve, that however is only half the story. India has a number of success stories to its credit which testify to the fact that there exists a "Vibrant India". One such success story is the Indian Space Research Organisation (ISRO).

The ISRO has been a toast of the nation and has an enviable track record even when seen against global standards. Over the past years ISRO can boast of a number of achievements to its credit. These include the Mars Orbiter Mission, also known as the Mangalyaan ¹ which successfully entered the Martian orbit on September 2014 in its maiden attempt, post which India became the fourth country to successfully venture into Mars. Besides, the Chandrayaan is the Indian Lunar Exploration Programme as a part of which the first mission Chandrayaan-1 was launched on October 2008., ² Despite these and other sterling achievements, arguably, ISRO's most remarkable achievement till date is the development of the Indian Regional Navigation Satellite System (IRNSS).

In April 2016, ISRO successfully completed the seventh consecutive successful launch of navigation satellites with the launch of the IRNSS-1G ³

¹ <http://www.isro.gov.in/pslv-c25-mars-orbiter-mission>.

² ISRO, 22 Oct 2008, <http://www.isro.gov.in/Spacecraft/chandrayaan-1>.

³ <http://www.isro.gov.in/update/28-apr-2016/pslv-c33-successfully-launches-indias-seventh-navigation-satellite-irns-1g>.
PM Narendra Modi, 28 Apr 2016 at 1420 hrs,



The previous six satellites were the IRNSS-1A, 1B, 1C, 1D, 1E and 1F. These satellites have been

launched by ISRO over the period July 2013 to April 2016 and form a constellation that will make India self-sufficient with its own indigenous navigation system. As per ISRO officials, though the IRNSS comprises of nine satellites — seven in orbit and two on the ground as stand-by, the navigation services could have been made operational even with four satellites.

To understand the importance and relevance of the IRNSS, one has to cast one's mind back to the Kargil War of 1999, during which the United States denied India the use of its GPS. Post this instance it became imperative that India develop its own navigation system. Thus having developed an indigenous navigation system India would be freed from its earlier dependency. In fact the importance of this achievement is evident from the Indian Prime Minister Narendra Modi's Facebook post which states: "A historic day for India's space programme. 125 crore Indians got a Navic.

Congrats to all our scientists who worked tirelessly for the launch of IRNSS-1G Mission. India salutes your persistence and dedication." ⁴. Mr Modi has proudly named India's Navigation system as "NAVIC" (NAVigation with Indian Constellation). Interestingly, in Hindi the "Navic" means a "Boatman" or one who guides you across. What is most important is that the entire project has just cost Rs 1420 crore or roughly Rs 12 per Indian citizen! Unbelievable!

With the development an indigenous navigation system, India has joined a select club of countries which have this capability. The other being the Global Positioning System (GPS) of the US (24 satellites), Glonass of Russia, and Galileo of Europe as well as China's Beidou. While GPS and Glonass are fully functional global systems, the Chinese and the Japanese systems offer regional coverage and Europe's Galileo is yet to be operational.

IRNSS has been designed to provide accurate position information service to users in India as well as the region extending up to 1500 km from its boundary, which is its primary service area.

⁴ https://m.facebook.com/narendramodi/posts/10156954101290165?comment_id=10156954109835165&reply_comment_id=10156954154550165&comment_tracking=%7B%22tn%22%3A%22R9%22%7D

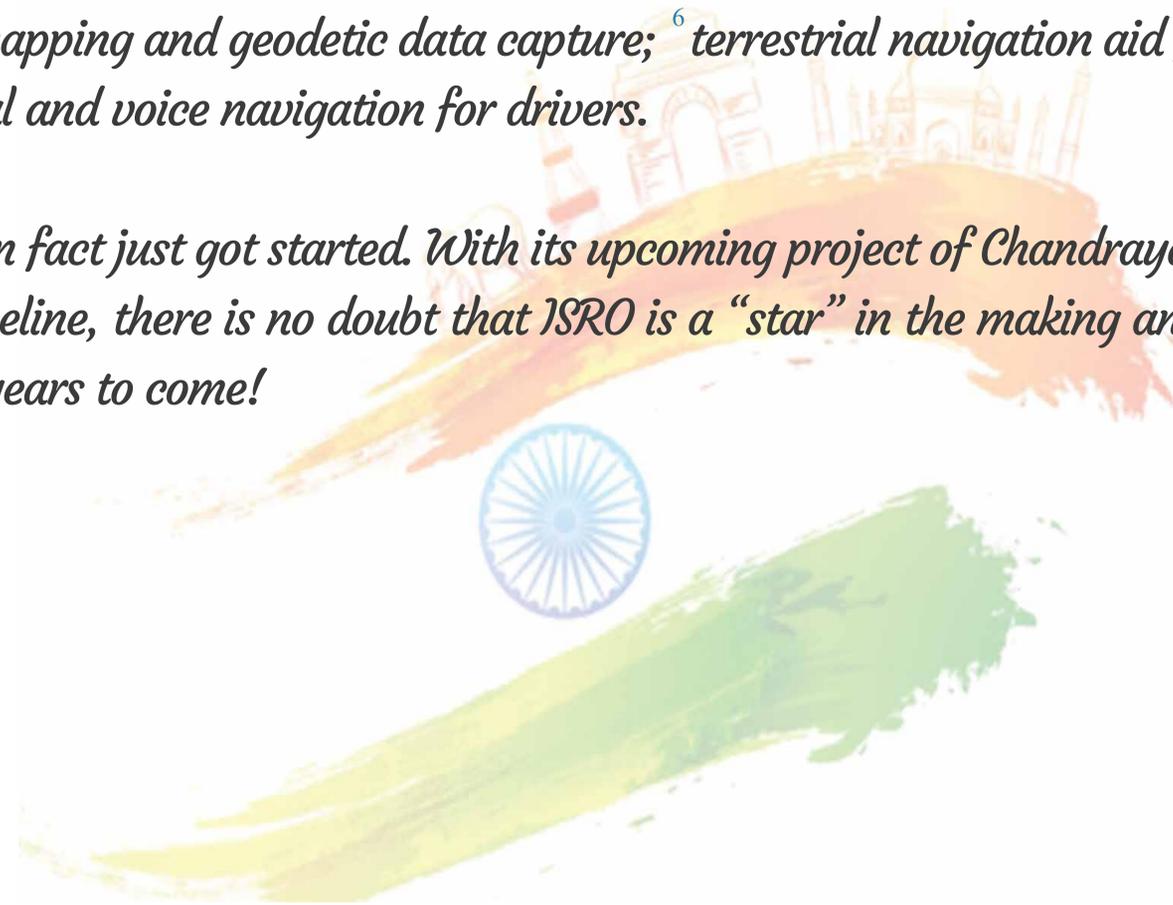


*An Extended Service Area lies between primary service area and area enclosed by the rectangle from Latitude 30 degree South to 50 degree North, Longitude 30 degree East to 130 degree East.*⁵

IRNSS will provide two basic types of services, namely, Standard Positioning Service (SPS) which is provided to all the users and Restricted Service (RS), which is an encrypted service provided only to the authorised users such as the defence services. It is believed that the IRNSS would provide a position accuracy of better than 20 m in the primary service area

The IRNSS is likely to be used for terrestrial, aerial and marine navigation; disaster management; vehicle tracking and fleet management; integration with mobile phones; precise timing; mapping and geodetic data capture;⁶ terrestrial navigation aid for hikers and travelers and visual and voice navigation for drivers.

and has in fact just got started. With its upcoming project of Chandrayaan-2 and many others in the pipeline, there is no doubt that ISRO is a “star” in the making and one which is there to stay for years to come!



⁵ <http://irnss.isro.gov.in/>.

⁶ <http://www.isro.gov.in/irnss-programme>.



About VIF

Vivekananda International Foundation is a non-partisan institute for dialogue and conflict resolution from a nationalist perspective. Some of India's leading expert in the fields of security, military, diplomacy, governance, etc have got together under the institute's aegis to generate ideas and stimulate action for greater national security and prosperity, independently funded, VIF is not aligned to any political party or business house.

Vivekananda International Foundation

3, San Martin Marg, Chanakyapuri, New Delhi - 110021

Phone No: +91-(0)11-24121764, +91-(0)11-24106698

Fax No: +91-(0)11-43115450

E-mail: info[@]vifindia.org

www.vifindia.org

