About The Issue

A. S. Kiran Kumar¹

© The Institution of Engineers (India) 2017

During the last five decades of Indian Space endeavor, Indian Space Research Organisation (ISRO) has worked on state of the art technologies, in the design, development and launching of different kinds of rockets and satellites in orbits catering to a wide range of applications that address the needs of the country. ISRO has also shown the ability to innovatively use its launch capability to perform lunar and mars missions such as Mangalyaan and the mission to moon, *Chandrayaan-1*.

Today, ISRO stands one among the few space faring nations in the world which has an end to end capability of launching, building satellites for communication, navigation, remote sensing and meteorology and enabling extensive use of these technologies by involving the user community. ISRO has one of the frugal space programs in the world. While ISRO continues to work on building capacity in the country to meet the national demands it is essential to work on technologies to bring down the cost of access to space.

On 23rd May, 2016, ISRO has crossed an important milestone in the history of our country's space programme by taking baby steps in the area of reusable launch

vehicles. Through this Reusable Launch Vehicle-Technology Demonstrator (RLV-TD) mission, ISRO is able to accomplish the following key mission objectives, (1) Hypersonic aero-thermodynamics design validation, (2) Autonomous navigation, guidance, control and integrated flight management, (3) Design of Thermal Protection System (TPS), hot structures and control surfaces.

This technology demonstrator mission has provided a significant amount of flight data in many key mission critical areas.

While these results provide invaluable material for further work in ISRO it is worth consolidating the valuable flight data and share the results of this mission with a larger scientific research community.

In this direction I am extremely happy to see the efforts of The Institution of Engineers (India) to bring out a Special Issue on this subject, which includes 14 technical articles covering various technical areas such as Aerodynamics, Aerothermal, Guidance, Control, Material structure. I am sure this will not only provide insight into the reusable launch vehicle activities and also serve as useful material for researchers in this area.

✉ A. S. Kiran Kumar
chairman@isro.gov.in

¹ Indian Space Research Organization and Department of Space, Govt. of India, Bangalore, India