

Heading to Space for Peace

On 4th February 2008 I.R. Iran successfully launched the sub-orbital rocket Safir (stands for “Envoy”) from its newly opened domestic launch site in northeast. This test was considered to be a major step towards country's attempt to launch its first home-made low-orbit research satellite Omid (Hope). The probe that was sent into space by I.R. Iran's Launch Vehicle (IRILV) sends real-time data back to earth from the altitude of about 250 km. Launch of Safir (announced as Kavoshgar-1 or Explorer-1 by the media) was a preparatory mission for orbiting Omid this summer. The Minister of Communications and Information Technology whose Ministry covers space related civil activities said, “For research and to remove the problems raised by earthquakes, floods, desertification and deforestation, communications and service providing to the remote areas that is only possible relying on space technology we need for attendance in space.” The near-polar orbit Omid will fly at an altitude of 650 km above the Earth and will pass over Iran six times every 24 hours. I.R. Iran put into orbit its Russian-made satellite Sina-1 on 27th October 2005. Nevertheless, Iran has pursued a space program for several years. The idea of using space and its technologies for the peaceful purposes and nation's welfare is as old as the time when Iran joined other 17 countries to establish the UN ad-hoc Committee for International Cooperation on Space in 1958 which later changed its name to the Committee of Peaceful Uses of Outer Space (COPUOS). Space technology applications was spread in Iran by the different organizations and bodies but for institutionalizing such the efforts Iranians had to wait by 1st February 2004 when the Iranian Space Agency (ISA) began its activity following the approval of the Parliament on 10th December 2003 for establishment of the Agency. It is mandated to both cover and support all the activities concerning the peaceful applications of space science and technology under leadership of Iran's Supreme Space Council chaired by the President of I.R. Iran. “We believe this is a long and practical step forward not only towards concentrating our efforts in advancing relevant science and technology in effective use of outer space for peaceful purposes but also to enhance our cooperation at the international level for this very well deserved purpose,” said the President of the Agency on the occasion of its establishment.

Policy making for the peaceful application of space technologies, manufacturing, launching and use of the national research satellites, approving space related programs of state and private institutions and organizations, promoting the partnership of the private and cooperative sectors in efficient uses of space, and identifying guidelines concerning the regional and international cooperation in space issues and clarifying the position of the country to the above-mentioned bodies are the aims that the Supreme Space Council assigned ISA for implementing them and Council's strategies.

Promoting the applications of space science and technology for peaceful purposes is both a vital part of Iran's current plans and very essential part of its strategy. This includes close attention to the important concepts such as public awareness, capacity building, research and exchange of experience simultaneous with the expansion of bilateral and multilateral cooperation in the regional and global levels. In addition to Iran's maximum efforts towards such activities the need to expand national capabilities in application of

technology is always felt. This expansion has been recognized in the country's mid-term and long-term plans leading to emergence of Earth Observation and satellite manufacturing industry in Iran. In light of the continuous capacity building and development of expert human resources and scientists in recent few decades the practical achievements for manufacturing satellites includes:

- Small satellite Mesbah (Lantern) that is a store and forward communication satellite, basically aimed at know-how in the process of design, assembly and expansion of international cooperation in the space field as well. The project is carried out in cooperation with Italy.
- Sina-1, the first Iranian satellite launched by a Russian Kosmos-3M rocket from Plestesk launch site in Russian Federation to the altitude of 700 km, is a small satellite with the research mission on remote sensing and communications. It is a near polar orbiter with the inclination of 98.18 degrees and period of 98.64 minutes.
- Small Multi-Mission Satellite (SMMS), an international joint venture in cooperation with China and Thailand that is mainly aimed at disaster and environmental monitoring. It is a medium low earth orbit sun-synchronous satellite weighing 490 kg and to fly 650 km above Earth.

Moreover, Zohreh, Pars, ZS4 and Sepehr are also the spacecrafts with Earth Observation and communication missions that the Iranian experts are engaged in their development. In addition to space segment, Iran has been developing its ground segments and facilities for communications and data gathering since long ago. Boomhen, Asadabad and Isfahan are the stations established for communication purposes while the old Mahdasht Ground Receiving Stations is being developed to become the Mahdasht Space Center in the near future.

To attain the position that it deserves in the global arena of endeavor for benefiting space and related technologies peacefully and for well-being Iran relies on its human sources as well as expertise and knowledge that is being accumulated continuously in course of enthusiastic efforts for experimenting and experiencing to head to space for peace and prosperity of the nation.

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Images:



[Safir-IRILV.jpg]
Iran's Launch Vehicle Safir, prepared for launching to space
(images credit: Iranian Space Agency)



[Mesbah.jpg]
Mesbah satellite at the lab
(images credit: Iranian Space Agency)



[Mahdasht71121.jpg]

Mahdasht satellite receiving station is being developed to become a Space Center
(images credit: Parviz Tarikhi, author)