For our space in space

Khaled Saleem

After having failed to utilise its allotted slots, Pakistan has now leased a flawed satellite to avoid losing the chance of ever making an appearance up there

By Nadeem Iqbal

5 Sci Tech News 14-7-02

satellite

In a desperate bid to avoid losing its slot in space forever, the federal government has decided to lease for a period of five years a faulty American satellite that would remain inoperative for an average of three hours a day.

The urgency to place its first satellite in the Geo-Stationary Orbit was realised in the middle of last year, by which time Pakistan had already lost four out of five of its allotted space slots.

The five slots were first allocated to Pakistan by the ITU (International Telecommunication Union) way back in 1984, but the country failed to launch any satellite till 1995. That year Pakistan again applied for and received the slots, but once again the government failed to put a satellite in orbit, losing four of its slots in the process.

According to officials, if Pakistan fails to launch its satellite by April 19, 2003, the country will lose its fifth and last 38 degree East slot.

Therefore, announcing a federal cabinet decision on July 3, the minister for science and technology Dr Ata-ur-Rehman said the country was acquiring a Hughes Global Systems Satellite (HGS3) on lease for five years at an initial cost of around $4.5 million. According to the minister another $4.6 million would be paid for operational expenses including the leasing cost for 34 transponders for the next five years.

Justifying the decision, the minister said that given the urgent need of securing its slot in space, Pakistan had opted to get a defective but cheapest available satellite on lease. The cost of a satellite in working condition comes between $50 million to $80 million.

The decision to buy Hughes was taken by a committee under the chairmanship of Dr. Ata and consisting of Secretary IT & Telecom, Secretary Finance, Deputy Chairman Planning Commission, D.G. SPD (Strategic Planning Division), Chairman PTA (Pakistan Telecommunication Authority), Chairman NTC, Chairman PTCL and Chairman SUPARCO.

The committee's plan is to develop a satellite within the country during this breathing space of five years. For this purpose, SUPARCO (Space and Upper Atmosphere Research Commission) has been directed to submit a PC-1.

The Paksat project was originally conceived in 1984 and is supposed to serve as the backbone of the country's defence, telecom, telecast, broadcast and information technology infrastructure. The total cost of the Paksat project is estimated to be around Rs. 3.6 billion, of which Rs. 0.720 billion has been allocated in the 2002-2003 budget.

Briefing the press, Air Vice Marshall Azhar Maud, Chairman National Telecommunication Corporation (NTC) said that a geostationary satellite is also used to secure defence communication, for early warning missile attacks and for nuclear detonation/burst detection.

He added that the leased satellite would, however, be used only for commercial purposes and would not be used for any such strategic purposes. Officials add that the satellite would recover most of its cost within five years of its operation thanks to these commercial endeavours.

The satellite is currently being used by Turkey but by December 23 this year, it would be moved from Turkey's 50 East slot to Pakistan's 38 East. The satellite is at present called Anatolia 1. Turkey itself is the third user of the satellite which originally belongs to Hughes Global Services Company, who are the operators of the satellite.

The satellite HGS3 was first sold to Indonesia in 1996 but by 1998 it developed a fault in its battery recharging which made it inoperational during eclipses. As a result, after successfully depositing its insurance claims, Indonesia disposed of the satellite.

The science ministry admits that the problem with the power pack persists which does not allow the batteries to provide energy to the payload during the eclipse period of 88 days a year which come to an average of three hours per day between 11:00 pm to 2:00 am. However, the payload is fully functional and the availability of the satellite transponder is more than 96 per cent despite outages during the eclipse period.

Anatolia-I provides discount KU and C band coverage of Europe, Africa and Asia. Like other satellites its total life is 15 years.

As per rules for making a satellite operational, a lengthy and complicated process is to be followed by concluding separate agreements for frequency coordination (FC) with many countries.

Hughes is not new to Pakistan. In 1984, in collaboration with Hughes, SUPARCO conducted a feasibility study defining the broad parameters of Paksat and estimated the cost of the project at $400 million including two satellites, their launching and ground infrastructure.

In 1990, the then government decided that the private sector should be involved in financing and operating the project. A review of the project was carried out by the Pakistan Investment Board (PIB) and in 1994 a Request for Proposal (RFP) was floated, to elicit a response from the private sector.

The Federal Cabinet in its meeting on April 16, 1997 decided to proceed with the Paksat project on the basis of the Letter of Intent (LOI) earlier issued to the Alcatel Spacecom of France on April 16, 1996.

The advancement remained again in low gear until it was expedited by the Ministry of Communications when a 15-year license was issued to Alcatel on June 13, 1998 by the Pakistan Telecommunication Authority (PTA).

Differences then started creeping in. One reason was the then government's insistence that Alcatel should certify that it had not paid kickbacks for the project. Another reason was the issue regarding lack of frequency coordination.

Eventually Alcatel withdrew from the project in December 2000. Then the Pakistan government considered going to court against Alcatel but dropped the idea as according to the present science minister, there was no penalty clause in case a party withdrew.

The Alcatel withdrawal at that crucial a stage jeopardised the sustainability of the entire project, turning a once cost-effective project into a possible expensive misadventure.

February this year Pakistan again invited international proposals for the positioning, deployment, operation and marketing of the communication system at the 38 E slot.

"The specified period initially would be limited to the remaining life of the in-orbit satellite but not exceeding 10 years. The specified period of positioning and operating the satellite system may be considered for renewal on mutually agreed terms and condition," read this year's Request for Proposal.

The RFP further said: "The bidder is required to locate/deploy a satellite by 1 January 2003. The Pakistan government however shall reserve the right to use this orbital slot for deployment of its own domestic satellite system on expiry of the specified period or co-locate its satellite system during this period."

The RFP added that Pakistan launching a satellite communication service as it has entered phase of deregulation for both television (in January 2002) and telecommunication (in January 2003). This will enhance the market needs and the requirement for additional capacity over Pakistan.

"The development of telecommunication, creation of backbone for TV broadcasts in Afghanistan require the satellite capacity to meet both short and long term needs. Besides, oil rich central Asian Republics would also be served well due to limited footprints of existing regional satellites."

None of the proposals received qualified to meet the RFP parameters and as a result the government decided to contact satellite owners and operators.

Now in space Pakistan seems to have gone back to 1984 situation. The question, however remains whether this time the country's scientists would succeed in securing a permanent place in space? The situation is so urgent because not many slots are left in space now.

According to 1997 statistics out of a total of 3892 satellite launches, Russia/CIS is the leader with 2548, followed by US with 1214, France had 10, China 4, ESA (EU Sat) 96, Japan 52 and India 8.

ITU is responsible for all coordinating and recording procedures for space systems and Earth stations. The Union includes 189 countries and over 500 private members from the telecommunication, broadcasting and information technology sectors. Pakistan became its member in 1947.

Over the last 135 years, the Union's mandate has expanded to cover the invention of voice telephony, the development of radio communications, the launch of the first communications satellite and, most recently, the technological convergence that heralds the dawn of a new, telecommunications-based information age.

Taking silicons back home

Continued from Page 1

India's six institutes.

Pakistan is producing nearly a hundred thousand IT graduates a year, thanks to mushroom growth of IT institutes in principal cities. Of them, 25,000 are lost to the West, many of them as mere IT workers, not executives. It is about the same proportion that India loses every year from its graduates pool. But the Pakistani computer professionals, having picked up new skills and expertise, have yet to produce success stories. Nor have they shown any inclination to export their experiences back home. If some of them do, it is not noticeable.

The internet industry in Pakistan is still at a nascent stage despite its overwhelming demand — the reason being absence of business entities to use the new technology in a big way. There has, since long, been no industrial expansion and new investment. The economy is stagnant and looks likely to remain so in the near future. Both the government, because of its red-tape culture, and crime syndicates, because of their ransom and extortion culture, drive the local investors away to safe places abroad and the foreign investors are reluctant to enter Pakistan. Unless new industries come up and flourish, computer ventures cannot take off, nor is there a job for talented IT graduates. Ultimately, they are lost to the rich West.

But Shahid Javed Burki, a Pakistani economist who has been with the World Bank for a long time, insists that "We win by losing." He thinks that Pakistan should not be discouraged by the fact that a significant proportion of its trained citizens leave the country for foreign lands. The people who leave can also contribute significantly to the development of the homeland. And the IT specialists should be able to do for their country what has already been done by the similarly placed citizens from China and India. ■