HRD may dump Aakash, hints Raju

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FOUR months after he took over the Human Resource Development Ministry from Kapil Sibal, Pallam Raju on Friday indicated that his ministry may give up its much-publicised $35 Aakash tablet aimed at bridging the digital divide.

Marking a major shift in the thinking of the ministry on the subject, Raju said that instead of “an obsession with hardware”, the focus should be on enabling students with educational content — also allowing them to choose the device they want.

“Aakash is only a tablet... there are other such devices as well. While work will continue to develop it and increase its productivity, manufacturing is obviously a problem,” Raju said of the $35 tablet that now stares at an uncertain future.

The HRD Ministry has also decided to hold back its proposed tender for procuring 5 million Aakash tablets. It has alongside instituted two committees to review the Aakash tablet project as well as the National Mission on Education through ICT (NMEICT) and will take a final view on the much publicised tablet depending on these reports.

This is the first instance of Raju attempting a clear reversal of an education policy and position that was strongly backed by predecessor Sibal and in fact by the UPA in its first avatar under Arjun Singh as well.

On the ground, Canadian manufacturer Datawind has only managed to supply 20,000 Aakash tablets so far even as it stares at a March 31 deadline for delivery of the remaining 80,000 devices. An unhappy HRD Ministry also recently shot off a letter to IIT Bombay — that tests and preps the Aakash tablet for target users — to take action against Datawind for not meeting delivery deadlines. The ministry is even considering getting Datawind blacklisted if it fails to deliver the remaining devices.

Secretary Higher Education Ashok Thakur admitted the Datawind experience was a big setback for the project. Thakur said the ministry would have been more confident about taking forward the tender for 5 million such devices, if the one lakh tablets had been delivered and assessed through student use. Two committees — one under academic Prof Govindhan Mehta who is also Chairman at IIT Jodhpur and another headed by NIIT chairman Rajendra Pawar — are currently reviewing the Aakash project.

The Aakash tablet which was to be made available to students across educational institutes at a subsidised rate of Rs 1,130 instantly gathered global attention with its price tag but it has been quite a non-starter on most other counts also attracting damaging negative publicity along the way. If the first lot of devices were termed as rather substandard by users, IIT Jodhpur, which was originally handling the contract, and Datawind got into a serious conflict over the testing of the tablet forcing the ministry to intervene and transfer the project to IIT Bombay.
Production snag delays supply of Aakash-2 tablets

Manash Pratim Gohain | TNN

New Delhi: The future of the ambitious low-cost Aakash tablet seems to be running into rough weather. Supply of 1 lakh Aakash-2 tablets by March 31, 2013, the extended deadline after missing the December 2012 deadline, hangs in balance and the HRD ministry looks non-committal on the next phase.

While accepting the “failure” in production, HRD minister Pallam Raju on Friday said the ministry is awaiting a report from a committee headed by Rajendra Pawar reviewing the National Mission on Education through Information and Communication Technology (NMEICT) before taking a call on the prospects of the device.

According to HRD officials, until a week ago, the vendor — Datawind — could manage to supply just 20,000 units of Aakash-2 as opposed to a commitment of 1 lakh units. The HRD ministry has written to IIT Bombay, the executing body, to ensure the vendor meets the terms and conditions and the supply order by March 31, failing which action could be initiated.

“The product is there, but we have not been able to productionise it as per the requirement...” said Raju. When asked about the future of the product, the minister said, “One should not be obsessed with the hardware. Even if the supply of Aakash is not there as per the requirement, there are enough devices in the market catering to the low-cost tablet segment.”
A Ragtag Team Living a Once-in-a-Blue Moon Dream

Narayan’s Moon Venture Pretty Modest

Moon Express, a team funded by Indian billionaire Naveen Jain, is based out of NASA Research Park and bought out another team altogether.

In comparison, Narayan’s venture is modest. His team works out of a nondescript office building in Noida. His rsumes sourced from local staff are stacked lengthy tech reviews that discuss how low-mass mathematical equations on propulsion, trajectories, liquid fuel engines, and space debris.

But Team Indus has an advantage that no other team has. India’s commercial space programme is the cheapest in the world. And scattered in the country’s premier institutions and engineering companies is the knowhow and ability to do everything Narayan needs to get done. If he can design a flawless mission, marshal support and sponsorships and convince the Indian Space Research Organization (ISRO) to let him hitch his lunar dreams and his revenue model to its workhorse PSLV rocket, Narayan might well get a clear shot at orbit, and winning this surreal and prestigious race.

And this, irrespective of Team Indus’ future, despite all the guarantees, the prize, makes it an effort that many find appealing and worth supporting. Planning Commission member and former ISRO chairman Kasturirangan, who has seen a Team India presentation, told ET he was impressed most of all that a team of young people had taken upon themselves a challenge as awesome as this.

“lt is not easy to define a mission of this scale and do a competent mission analysis. I felt like they had done their homework. On the surface of it, l didn’t find any area that they had not properly factored in. They have mapped the terrain, the mass of the satellite and they understand the challenges thoroughly. Whether or not they succeed eventually will depend on how well they can manage the resources and support until then. But that is immaterial to me.”

What India needs are teams that can do these demanding things. If it made me happy, every institution in this country that can contribute in any way should support them. There should be no haste.

The Flying Fool

In 1939, the French-born New York hotelier Raymond Orteig announced a flying prize worth $25,000 for the first non-stop flight between New York and Paris. While a number of American pilots and teams tried for the prize, only multi-engine planes with two or three pilots, Charles Lindbergh, a young slim model flying alone in a single-engine plane, the Spirit of St Louis, won the prize. Before he won, his chances were regarded as slim, some dubbed him the Flying Fool. The Orteig prize is estimated to have spurred investments and innovation worth multiples of the prize amount. Lindbergh’s extraordinary feat generated so much interest in aviation that a subsequent phenomenon called the Lindbergh boom saw a 30-fold rise in aviation activity.

In 1994, American engineer and entrepreneur Peter Diamandis read The Spirit of St Louis. Lindbergh’s Pulitzer-prize winning book about the historic flight. Inspired, he created an incentive competition for a privately funded space flight. The $10 million Ansari X-prize was won in 2004 by a team funded by Microsoft co-founder Paul Allen, as is estimated to have received more than $300 million investment by the 16 teams that participated. The competition formed the technology core of Richard Branson’s Virgin Galactic, which plans to offer tourist flights to space. A launch date is yet to be announced. That has created more than 500 jobs for people paying $200,000 to 1 million to get tickets.

The Google Lunar X-Prize was announced in 2007 to spur research and investments in low-cost lunar transportation. While 32 teams participated, only Google has reached the lunar surface by crashing into it. India’s Chandrayaan-1 project crashed into the lunar surface. In other words, Narayan and other participants in the Google Lunar X-Prize competition are attempting what neither China nor ISRO has yet achieved.

The awesome challenge involved in winning the prize is the greatest asset to any team that attempts a landing. A privately funded team attempting a moon landing would usher in a new era in lunar exploration. And the hope surrounding the event, which would be publicized and webcast by Google, creates immense marketing and media potential for brands and institutions that support such an effort. CHALLENGES, SUPPORT

Team Indus’ lunar mission will be a non-starter if it does not agree to launch them, if Team Indus signs a launch on the GSLV-F1 which may amount an 18 to 20 per cent discount, their lunar module is projected to cost about 500 million at the right velocity and angle, and with some mid-course correction done with cold gas jets and a mechanism known as reaction wheels— all controlled by ground signals on the board computers.

Landing on the moon is the biggest challenge. The moon’s sphere of influence (where moon’s gravity begins to fall off) begins around roughly 100,000 km from the moon. After this point, the craft will accelerate towards the moon and achieve an impact velocity of 10 km per second, roughly twice the speed of a typical bullet. Team Indus’ mission involves operating an operation that will fire the rocket engines of that rocket to achieve proper reverse thrust at a distance of 200 km from impact. This is how the spacecraft applies its brakes. These rockets must kill the velocity of the craft so precisely that velocity should be zero when it is 10 km from the moon’s surface. From there, it falls onto the surface. Gravity on the moon is a seventh of what it is on earth—a fall from 10 metres is only a sixth as hard on your spine. The craft will survive. It must then eject the rover, which should then travel 500 metres and transmit back pictures and high-definition video. Due to low gravity and a sticky surface with superfine sand, travelling 500 metres on the moon takes time and energy.

These manoeuvres are tough to execute. There are very few vendors around the world who can deliver the space-grade equipment, such as rockets, batteries, metal, chips, sensors, altimeters and radar, which can withstand the rigors of deep space— the hard vacuum, radiation and extreme temperatures. On the moon, the temperature varies from 120 degrees Celsius to minus 120 degree Celsius.

“There is very low margin of error. We have to be 100 per cent certain about all systems,” said M Logaganathan, a former ISRO scientist and Team Indus’ chief radiologist. Logaganathan and KR Sharma, another former ISRO scientist who reviewed Team Indus’ technology at a recent exercise, said the group of young engineers led by Narayan had climbed a steep learning curve and were working hard.

A People’s Project

Narayan has met with a number of institutions such as the Council of Scientific & Industrial Research and ISRO Madras. He also met with the competition’s rules, 10 per cent of the profit can be used in the form of a government grant, and there is no limit to how much data a team can sell as a revenue sharing model. There is no hard on financing the entire project this way either. Several agencies and private corporations have promised support.

A Starr Trek: Narayan (left) with his team of spacefarers

Kasturirangan told ET he has told the ISRO chairman that he shouldn’t only meet the team, but also support them in any manner the space agency can.

Narayan’s partner, Julian Amir, who is handling the shipping and investor relations, says the company is in talks with a number of investors. While private equity investors and high-net-worth individuals have laughed in their faces in the past, Narayan and his team have taken their research to a level where the value of the intellectual property appears formidable. No body laughs at them anymore.

If specialized institutional sponsor subs such as propulsion, tech, science and communication, and with standing promise from a large engineering firm to provide the hardware, the money, and rover for them, Narayan only has to fine-tune his design and find the money to procure equipment. His funding strategy is to raise $45 million in cash, and $60 million worth of non-cash partnerships. The rest is the cost of the rocket, that he has to pay ISRO for. That is, he wants to raise the money from ordinary Indian people. He has planned January 2015 launch.

Narayan grew up in an age when the frontier of technology was trained as a computer science engineer. He dallied in starting and running firms all his life. This is his one opportunity to soar above the ordinary. “I will sell T-shirts and apps. All sorts of merchandise. But we want our people to think about and exercise the wonder of space when our leaders lift off and land on the moon. I want them to own this mission,” he said.