

Resilience behind success of ISRO: Radhakrishnan

'Mineral exploration is future of space missions'

Mysuru: Former ISRO chairman K Radhakrishnan said mineral exploration of other planets is the future of space exploration and many countries are working on it.

According to him, exploitation of celestial bodies for minerals is the future of space exploration and rockets with such capability should be developed.

"If you have to go to moon or mars or even asteroids and bring resources from there, we need rockets that can carry more payload," said Radhakrishnan.

He said Indian rockets can carry a maximum of four tonne currently. SpaceX's Falcon Heavy rocket can carry 63 tonne while Chinese ones can carry 25 tonne to low earth orbit and the US is developing space launch systems which can carry over 100 tonne. "World over, countries are expanding their capability to carry more payload.

Larger capacity is required to transport resources. For instance, to bring 10 tonne of resources from the moon, we should have the capability to put 250 tonne in low earth orbit," he said. He also took time to explain the complexity of the Chandrayaan 2 mission and said while 50 years ago when Neil Armstrong was to land on moon, humans were on control to slow down the spacecraft and find the perfect spot to land.

However in the case of Chandrayaan 2, not only the craft by itself should slow down from 6,000 km/hour to a standstill, it should also have smart systems to find the perfect spot to land without any craters or boulders.

He said India is among the frontline countries in terms of space capabilities, and has emerged as a reliable and cost-effective destination for launching satellites.

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The ability of the Indian Space Research Organisation (ISRO) to handle issues and solve them swiftly is the reason behind the success of the space exploration agency, said its former chairman K Radhakrishnan.

Speaking at the foundation day lecture at the Shri Dharmasthala Manjunatheshwara Institute for Management Development here on Friday, Radhakrishnan quoted the recent postponement of Chandrayaan 2 mission and said though the mission was delayed due to a small leak, what is remarkable is ISRO's ability to swiftly correct the issue and be ready for a launch in a week.

The former ISRO chairman also offered management lessons to the students including the ISRO's work culture. "ISRO's work culture is such that the credit for every successful project or mission is given to the entire team whereas in the event of a failure, the leader of the team takes up the responsibility," he said.

He said another element of ISRO's work culture is the liberty to raise questions regardless of the rank. "Every

launch and project is executed with the help of our elders, including former chairpersons and scientists. However, even a junior engineer has the right to raise a question which will be considered with the same importance," he added.

Responding to a query on management lessons from ISRO, he said wisdom of elders and innovative power of youngsters are the two management

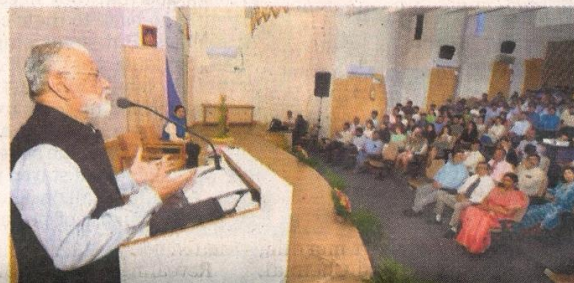
tenets one should always consider and added that a leader should always be ready to get challenged and should make everyone feel that the goals of the organisation are their own.

The former chairman also had HR lessons for the management students while responding to a question on the

HR practices in ISRO. In his response, Radhakrishnan said till 80's, the organisation did not have any issues with getting talent. But by 90's the IT boom impacted the flow of talent. "To overcome the challenge, we gave emphasis to exciting projects like Mars orbiter and Chandrayaan. Then we enhanced the salary by 40 per cent. We also restarted our space institute as a result we were able to solve the issue. Now we get over 300 candidates a year," he added.

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K Radhakrishnan, former ISRO chairman



Former ISRO chairman K Radhakrishnan speaks during a foundation day lecture at SDMIMD in Mysuru on Friday | UDAYASHANKAR S