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# Third launchpad at Satish Dhawan Space Center: Why was Sriharikota chosen as India's spaceport?

The SDSC is the country's only spaceport from which spacecraft and satellites are launched. It became operational on October 9, 1971, with the flight of 'Rohini-125', a small-sounding rocket, and was initially known as SHAR (Sriharikota Range)

By: Explained Desk

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PSLV C40 in XL configuration before launch at the Satish Dhawan Space Center (SDSC) in Sriharikota in 2018. (Photo: Wikimedia Commons)

The Union Cabinet on Thursday (January 16) approved the setting up of a third launchpad at the Satish Dhawan Space Center (SDSC) in Sriharikota — a spindle-shaped island on the east coast of Andhra Pradesh.



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The new launchpad will help Indian Space Research Organisation (Isro) to become future ready to use the heavier Next Generation Launch Vehicle (NGLV) that it is currently developing.

The SDSC is the country's only spaceport from which spacecraft and satellites are launched. It became operational on October 9, 1971, with the flight of 'Rohini-125', a small-sounding rocket, and was initially known as SHAR (Sriharikota Range). But in September 2002, the space centre was renamed Satish Dhawan Space Centre SHAR to honour mathematician and former Isro Chairman Satish Dhawan.

### How was Sriharikota selected as the launch site?

The hunt for choosing an ideal location for launching India's future satellites goes back to the 1960s when India decided to indigenously develop satellites and their launch vehicles. The program was being spearheaded by Vikram Sarabhai, the founder of the Indian space programme, who told his fellow scientist and a close associate EV Chitnis to look for a launch site on the east coast of the country, according to 'From Fishing Hamlet to Red Planet: India's Space Journey', a book edited by former Isro scientists.

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In March 1968, Chitnis contacted then Director of Industry of Andhra Pradesh, Abid Hussain, who helped him acquire information and prepare maps for potential sites, including Sriharikota. In an interview, quoted in the book, Chitnis said: "In August, Vikram Sarabhai had a survey of that (Sriharikota). He took The Hindu newspaper's Dakota; you know those people had a plane. So we flew over on that and in October we acquired about 40,000 acres. So fast! You know, the speed with which we could move and get things done was amazing!"

### Why was Sriharikota chosen?

There were two primary reasons for selecting Sriharikota as the launch site. One, it is on the east coast which facilitates the launching of the rockets in an easterly direction. Two, its proximity to the equator.

"By launching a rocket eastwards, one can take advantage of Earth's rotation. For a launch site close to equator the magnitude of the velocity imparted due to Earth's rotation is about 450 m/s, which can lead to substantial increase in the payload for a given launch vehicle. Geostationary satellites must necessarily be in the equatorial plane. So, for such satellites, closer the launch site is to the equator the better it is," the book mentioned.

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There were other considerations also, such as it was a largely uninhabited area and closer to the sea. This helped ensure that the flight path of launch vehicles or rockets is entirely over the sea, so that impact of separated rocket hardware can take place on the high seas without any constraints, the book further added.

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### Who was Satish Dhawan?

Born in Srinagar, Dhawan was an Indian rocket scientist, known as the 'Father of Experimental Fluid Dynamics research' in India. He is also one of the foremost researchers in the field of turbulence and boundary layers.

In 1972, Dhawan succeeded Vikram Sarabhai as the Chairman of Isro. According to the space agency's website, "In the decade following his appointment, he directed the Indian space programme through a period of extraordinary growth and spectacular achievement... His efforts led to operational systems like INSAT- a telecommunications satellite, IRS – the Indian Remote Sensing satellite and the Polar Satellite Launch Vehicle (PSLV) that placed India in the league of space faring nations."



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It was after his death in 2002 that the space centre in Sriharikota was renamed the Satish Dhawan Space Center to honour his legacy.

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