



Inflatable Aerodynamic Decelerator: ISRO

Why in News?

Recently, the [Indian Space Research Organisation \(ISRO\)](#) has successfully tested the **Inflatable Aerodynamic Decelerator (IAD)** technology that could aid cost-effective recovery of spent rocket stages and safely land payloads on other planets.



What is IAD?

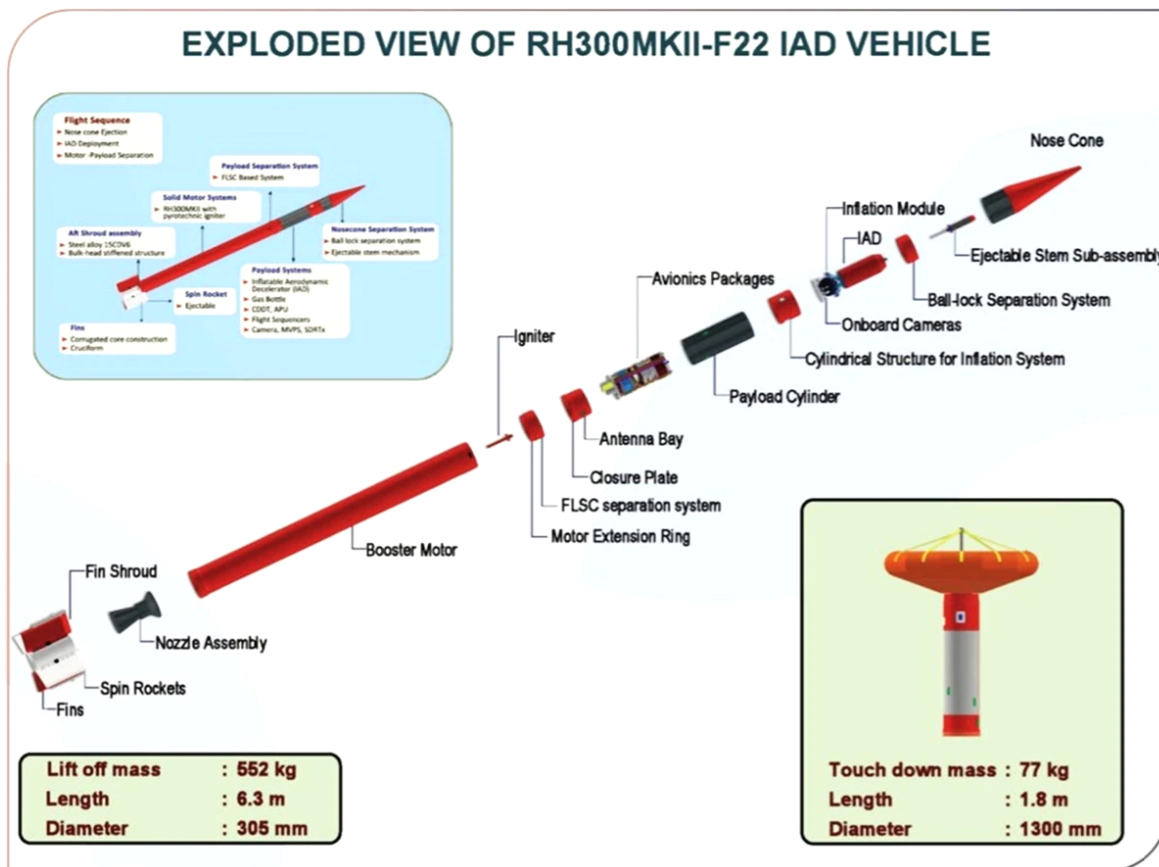
▪ About:

- The IAD is designed, developed and successfully test-flown by **ISRO's Vikram Sarabhai Space Centre (VSSC)**.
- The IAD was successfully test flown in Rohini-300 (RH300 Mk II) sounding rocket from Thumba Equatorial Rocket Launching Station.
 - Rohini sounding rockets are routinely used for flight demonstration of new technologies being developed by ISRO as well as by scientists from India and abroad.
- The IAD serves to **decelerate an object plunging down** through the atmosphere.
- The IAD was initially folded and kept inside the payload bay of the rocket. At around 84 km altitude, the IAD was inflated and it descended through the atmosphere with the payload part of a sounding rocket.
- The IAD has systematically **reduced the velocity of the payload through aerodynamic drag** and followed the predicted trajectory.
 - The force on an object that resists its motion through a fluid is called **drag**. When the fluid is a gas like air, it is called **aerodynamic drag** or air resistance.

▪ Significance:

- The IAD has huge potential in a variety of space applications like **recovery of spent**

stages of rocket, for landing payloads on to Mars or Venus and in making space habitat for human space flight missions.



What is ISRO?

- ISRO is the space agency under the Department of Space of Government of India, headquartered in the **city of Bengaluru, Karnataka**.
- Its vision is to harness space technology for national development, while pursuing space science research and planetary exploration.
- Antrix Corporation Limited (ACL)** is a Marketing arm of ISRO for promotion and commercial exploitation of space products, technical consultancy services and transfer of technologies developed by ISRO.
- Shri S. Somanath** is the incumbent chairman of ISRO.

[Source: TH](#)

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