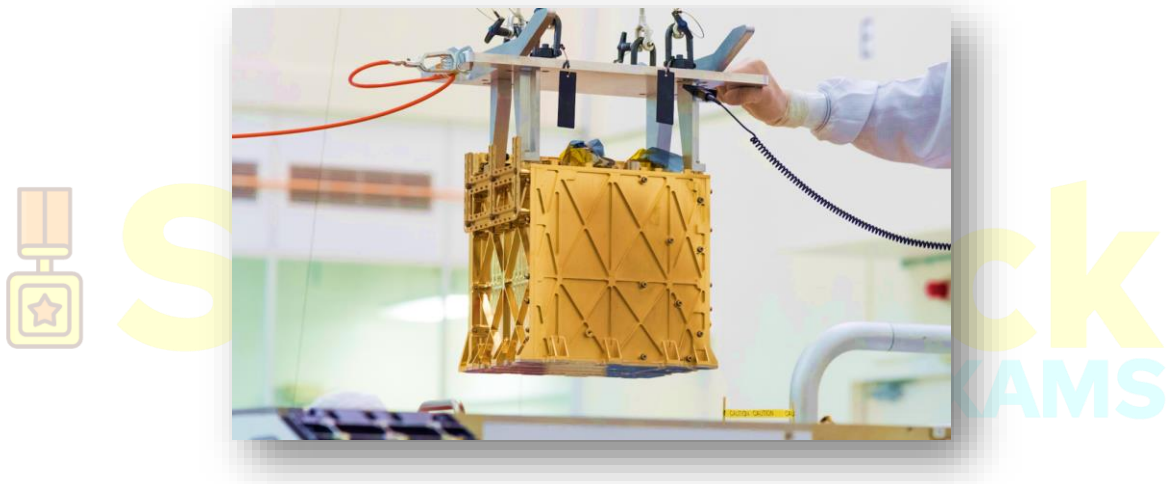


NASA's MOXIE Generates Oxygen On Mars

Why In The News?

- American Space Agency **NASA** Announced That Its Oxygen-generating Experiment That Accompanied **Perseverance Rover** Has Successfully Generated **Oxygen On The Mars**.
- **MOXIE (Mars Oxygen In-situ Resource Utilisation Experiment)**, Developed By Massachusetts Institute Of Technology (MIT), Has Generated Oxygen For The 16th And Final Time Abroad.



Significance Of The Event

- MOXIE's Performance Shows That Oxygen Can Be Generated From Mars' Atmosphere. MOXIE's Impressive Performance Shows That It Is Feasible To **Extract Oxygen From Mars' Atmosphere** - Oxygen That Could Help Supply Breathable Air Or Rocket Propellant To Future Astronauts.

How MOXIE Produced Oxygen?

- MOXIE Has Been Generating Oxygen Abroad The Perseverance Rover **Since Its Landing In 2021**.
- Oxygen Is Produced Through An **Electrochemical Process** That Separates One Oxygen Atom From Each Molecule Of Carbon Dioxide Pumped In From Mars's Thin Atmosphere.

- They Are Analysed To Check The **Purity And Quantity Of The Oxygen** Produced Once These Gases Flow Through The System.
- According To NASA, A Total Of **122 Grams Of Oxygen** Was Generated By MOXIE, Which Is Twice As Much As NASA's Original Goals For The Instrument. It Also Added That The **Oxygen Produced Is Of 98 Per Cent Purity**, Making It Suitable For Breathing And Fuel.

What's Next?

- After Its Success, The Next Step Would Be To **Create A Full-scale System That Includes An Oxygen Generator** Like MOXIE And A Way To Liquefy And Store That Oxygen.

