

India's First Manned Ocean Mission "Samudrayan"

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In news– India's First Manned Ocean Mission 'Samudrayan' has been launched at Chennai, recently.

About Samudrayan

- With this launch, **India joined the elite club of nations such as the USA, Russia, Japan, France and China** to have such **underwater vehicles for carrying out subsea activities.**
- This niche technology shall facilitate Ministry of Earth Sciences, MoES in **carrying out deep ocean exploration of the non-living resources** such as polymetallic manganese nodules, gas hydrates, hydro-thermal sulphides and cobalt crusts, located at a depth between 1000 and 5500 meters.
- **MATSYA 6000 under** Samudrayan initiative , the deep water manned submersible, will be **ready for trials by the second quarter of 2024.**
- The **preliminary design of the manned submersible MATSYA 6000 is completed** and realization of the vehicle is started with various organizations including **ISRO, IITM and DRDO roped-in to support the development.**
- **The sea trials of 500 metre rated shallow water version** of the manned submersible are expected to take place in the **last quarter of 2022.**
- **Ministry of Earth Science-NIOT is indigenously developing** this manned submersible with a depth capability of 6000 meters under the aegis of Deep Ocean Mission.
- The manned submersible, **Matysa is designed to carry three persons** in 2.1 meter diameter Titanium Alloy Personnel Sphere with an operational endurance of 12h

and systems to support emergency endurance up to 96h.

Importance of sea water vehicles-

- The underwater vehicles are **essential for carrying out subsea activities such as high resolution bathymetry, biodiversity assessment, geo-scientific observation,** search activities, salvage operation and engineering support.

International Association of Classification and Certification Society (IACS)-

- **IACS is a not for profit membership organisation of classification societies** that establish minimum technical standards and requirements that address maritime safety and environmental protection and ensures their consistent application.
- It carries out this responsibility through its panels, expert groups and project teams and provides a Quality System Certification Scheme (QSCS) that its Members comply with, as an assurance of professional integrity and maintenance of high professional standards.
- **IACS is recognized as the principal technical advisor of IMO.**

China's feat-

With the advancing subsea technologies, the recent Fendouzhe manned submersible developed by China in 2020 has touched ~11000m water depths.