India Aiming for Global Competitiveness Through Indigenous Capabilities and International Cooperation: Dr. Jitendra Singh at IPRD 2026

India's First Human Deep-Sea Mission to Reach Depths of Up to 6,000 Metres by 2028, Alongside Progress in Gaganyaan Mission

Deep Ocean Resources to Be a Major Source of Economic Value Addition for Achieving Viksit Bharat 2047: Dr. Jitendra Singh

'One Ocean, Shared Knowledge and Equitable Prosperity' Should Guide Indo-Pacific Cooperation: Union Minister Dr. Jitendra Singh

Prime Minister's Reference to Deep Ocean Mission in Independence Day Addresses Reflects Strategic Priority to Ocean Resources: Dr. Jitendra Singh

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India is aiming to achieve global competitiveness in ocean research and exploration through indigenous capabilities, international cooperation and global co-creation, Union Minister of State (Independent Charge) for Science & Technology and Earth Sciences and MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr. Jitendra Singh, said while addressing the Indo-Pacific Regional Dialogue (IPRD) 2026, organised by the National Maritime Foundation under the Ministry of Defence.

Dr. Jitendra Singh said that India's approach to scientific missions in recent years has increasingly been based on a mission-mode framework, bringing together multiple departments and institutions rather than confining research to individual ministries. He highlighted the growing convergence of ocean sciences, space technology, nuclear science, geology, electronics and robotics in advancing India's maritime and deep-ocean capabilities.

Highlighting India's indigenous capabilities in deep-ocean exploration, the Minister said that the National Institute of Ocean Technology (NIOT), Chennai, has developed the capability to conduct trials at depths of 5,000 to 6,000 metres in the Central Indian Ocean Basin. He also referred to the Ocean Mineral Explorer, which enables high-resolution exploration of hydrothermal sulphide deposits, several of which have already been identified.He noted that the Prime Minister Shri Narendra Modi reference to the Deep Ocean Mission twice in his Independence Day addresses reflects the priority accorded to ocean resources at the highest level and their strategic importance for India's future.

Referring to the Samudrayaan Mission, Dr. Jitendra Singh said that the *Matsya* submersible is designed to carry three aquanauts to depths of 5,000–6,000 metres. He said that India is progressing towards sending its first human deep-sea mission to a depth of up to 6,000 metres by 2028, marking an important milestone in the country's indigenous deep-ocean exploration programme.

Drawing a parallel with India's human spaceflight programme, the Minister said that the country is working towards a remarkable convergence of deep-sea and space exploration. He expressed the vision of having an Indian human being undertake a deep-sea journey to nearly 6,000 metres while almost simultaneously another Indian travels into space, reflecting the country's growing scientific and technological capabilities.

Dr. Jitendra Singh said that India's ocean research is increasingly supported by space-based capabilities. He referred to dedicated satellites contributing to ocean-related research through observations of ocean colour, sea-surface temperature and wind vectors. These capabilities, he said, are expanding the scope of ocean observation and could also support future exploration of renewable energy resources from the oceans, including wind and solar energy.

Emphasising the importance of a whole-of-government and whole-of-science approach, the Minister highlighted the contribution of different scientific institutions and departments to India's ocean-related missions. He referred to the role of nuclear technology in seawater desalination, including the desalination plant at Kalpakkam established with the support of Bhabha Atomic Research Centre and the low-temperature desalination facility in Lakshadweep developed through the Ministry of Earth Sciences.

The Minister said these initiatives demonstrate how different scientific disciplines and technologies can work together to address national requirements, including access to potable water in coastal and island regions.

Dr. Jitendra Singh said that international cooperation would be equally important in advancing ocean research, as oceans do not follow political boundaries drawn by countries. Issues such as marine pollution and changes in ocean temperature have consequences extending across national jurisdictions, making collective scientific efforts essential.

The Minister called for global strategies and partnerships based on joint scientific missions, reciprocal access to research facilities and data sharing. He said India's approach should be guided by the principle of “One Ocean, Shared Knowledge and Equitable Prosperity”, with the diversity of histories, cultures and geographies across the Indo-Pacific serving as an opportunity to strengthen cooperation.

The Minister outlined key priorities for strengthening regional cooperation, including closing observational gaps and improving the forecasting of extreme events; establishing regional climate services partnerships for coasts and islands; promoting responsible and accessible ocean technologies; advancing deep-ocean research; and strengthening conservation and equitable use of ocean resources.

Highlighting the role of research and innovation funding, Dr. Jitendra Singh referred to the establishment of the Anusandhan National Research Foundation and the announcement of the ₹1 lakh crore Research, Development and Innovation (RDI) Fund to accelerate private-sector participation in research and development.

Dr Jitendra Singh said the RDI Fund provides for a 50:50 equity-based approach, encouraging private-sector stakeholders and investors to participate alongside the government in emerging areas of research and technology. He emphasised that government departments, scientific institutions, private-sector stakeholders and investors must work together to develop new sectors and strengthen India's technological capabilities.

Connecting ocean exploration with the national vision of Viksit Bharat 2047, the Minister said that achieving the country's development goals would require identifying new sources of economic value addition. He observed that a significant part of this potential lies in resources that remain unexplored or underexplored, with the deep ocean representing one of the major opportunities.

During the interaction with participants, Dr. Jitendra Singh also addressed a question on the potential of nuclear-powered vessels and the future of clean energy in maritime transport. He referred to the recent opening of the nuclear sector to private participation under the SHANTI Act and India's target of achieving 100 GW of nuclear energy capacity by 2047. He said that the Deep Ocean Mission is also exploring different possibilities for generating renewable energy from the oceans, including through solar panels, ocean winds and temperature or energy gradients.

Responding to a suggestion on extending the Swachh Bharat initiative to the oceans, the Minister said that the government had already initiated an annual ocean-cleanliness campaign. Recalling its beginning during the commemoration of 75 years of Independence, he said the initiative had since developed into an annual effort involving coastal district administrations, the Indian Navy, the Indian Coast Guard, NGOs and other stakeholders. He emphasised that marine pollution cannot remain confined to one country and that efforts towards cleaner oceans would benefit the wider Indo-Pacific region.

Dr. Jitendra Singh said that India's growing indigenous capabilities, combined with international partnerships and responsible sharing of scientific knowledge, would be crucial to strengthening its role in global ocean research and exploration. He called upon stakeholders to work collectively towards the peaceful, sustainable and equitable use of ocean resources, contributing to the national vision of Viksit Bharat 2047.







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