

Heritage of Maritime Engineering in India

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India currently has one of the strongest Navies in the world consisting of aircraft carriers, warships, submarines and small crafts. Indian Navy does an excellent job of doing its duty, which includes safe-guarding the national integrity of the nation, helping in the national trade and supporting the civilians in times of natural calamities like the tsunami of 2004. This achievement has a long history, with the Rig Veda, which credits Varuna, the Hindu god of water and the celestial ocean, with knowledge of the ocean routes and describes the use of ships having hundred oars in the naval expeditions by Indians. Recorded history goes way back to 5000BCE with the birth of art of the navigation and border-protection during the Indus Valley Civilization. Indian maritime history begins during the 3rd millennium BCE when inhabitants of the Indus Valley initiated maritime trading contact with Mesopotamia. During the Maurya period (3rd century BCE), there was a definite "naval department" to supervise the ships and trade in the country which later formed the basis of current ministry of Ports and Shipping. One of the greatest achievements in ancient Indian Maritime history is the world's first dock at Lothal (2400 BCE) which was constructed with such engineering precision that was located away from the main current to avoid deposition of silt. They knew at that time how to dredge the ports, such that they could achieve the required depths near the dock. Modern oceanographers have observed that the Harappans must have possessed great knowledge relating to tides in order to build such a dock on the ever-shifting course of the Sabarmati, as well as exemplary hydrography and maritime engineering. The first use of mariner's compass, called as *Matsya Yantra*, was recorded in 4 and 5 AD. Thus, it can be said that India with its rich history of maritime engineering has contributed a lot to the development of shipping and naval engineering to the entire world. It is only a matter of pride that the current government has brought in the idea of 'Make in India' to this country that has a rich heritage in science and engineering.