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TITLE OF PROJECT: Conversion of Indian ports into smart ports through integrated solution based on metaverse and digitalization

NAME OF ALL AUTHORS: Shashank and Prateek Sharma

NAME OF YOUR MENTOR: Asst Prof Anoop C

NAME OF YOUR COLLEGE: INS Vishwakarma/ Indian Navy

ABSTRACT (150-300 words):

Since the earliest times, ships and shipping have shaped civilization. Ships have been used for wide purposes such as discovery, war, and leisure, but most of all for cargo transport. Ports provide an interface between land and marine modes of transportation, thus serving as a service and economic provision unit for the nation. Ports across the nation are experiencing new digital Industry 4.0 solutions or in simple terms fourth industrial revolution as they embrace revolutionary innovations that include Artificial Intelligence (AI), digitalization, Internet of Things (IoT & IoUT). In simple vocabulary, ports have become “Intelligent” in their third generation and now have become “Smart” in their fourth-generation phase. While talking about our country, the Indian port infrastructure is spread along 7500 km with 13 major ports and 200 minor ports. This paper aims to identify the problems faced by Indian Ports despite several initiatives taken and methodologies employed by Government of India since 2013 as the growth was not as anticipated. The paper presents the idea of conversion of Indian ports into smart ports by using the concept of metaverse, Virtual reality and Digitalization and integrating all of three in present national scenario by taking sustainable development, cooperation issues and economy. The paper also aims to achieve a dedicated freight corridor for the Flexible, multi-mOdal and Robust Freight Transport (FOR FREIGHT) for the Indian shipping industry. This would deliver a dependable and excellent performance communication network that can provide a variety of intelligent and unmanned operations.

KEYWORDS: AI, metaverse, IoT, FOR FREIGHT

CATEGORY: Architecture, Infrastructure and Urban Science