

## **Creating a platform (such as software, WEB app, or mobile app) based on a barcode / QR code scanning inventory information system for HSL**

### **Problem Statement Background:**

Effective Ship building requires a strong control of the supply chain to ensure proper construction and maintenance, of vessels. Traditional techniques often rely on manual methods that are time-consuming, prone to errors, and limited in capturing intricate details. The material movement inside the yard from stores to sub-stores, sub-stores to vessels is documented in paper which is time-consuming and inaccurate and tracing a material becomes much more difficult. Further, the weight calculation of the ship is also manual which has errors.

Equipment once received to sub stores, needs to be stored in such a way that it could be identified easily once required. Further sensitive items are to be removed from equipment and stored in vessel construction sub-stories which are manually entered in the register and are prone to error, identification of the parts becomes difficult in such cases.

This statement of case highlights the benefits and advantages of Bar code tags for material handling during ship building and processes, showcasing how they enhance accuracy and efficiency, and strengthen the supply chain throughout the lifecycle of a vessel construction.

Shipbuilding faces several challenges that can be addressed through the implementation of QR codes / Bar codes on material and its components.

### **Solution:**

Implementing QR / **bar codes on material** in shipbuilding processes offers several advantages and solutions to the challenges mentioned above:

- Tracking any material at any point in time can be easy and accurate.
- Pipe spool fabrication and movement from the fabrication to fitment can be tracked and maintained.
- Weight calculation of vessels can be easy and accurate by scanning the barcode of the equipment at the time of lowering onboard ship. The weight chart gets automatically updated once the barcode gets scanned.
- Substores could generate a barcode and can feed the details of the component in the tag for better identification of components removed from the main equipment.
- Barcode on each component of the equipment should be fed with details like equipment description, weight and other specifications.
- Barcodes can improve efficiency in production.

**Conclusion:**

The integration of **barcode** technologies in shipbuilding processes may offer significant advantages, including improved accuracy, transparency enhanced efficiency, and streamlined workflow. By leveraging **barcode** technology, shipbuilding can optimize processes, reduce errors, and improve overall project outcomes.

- For the initial phase only 3 to 4 important equipment/ machines may be considered for implementation of the project and later more number of machines can be given as a broad work order.