



गार्डन रीच शिपबिल्डर्स एण्ड इंजीनियर्स लिमिटेड

Garden Reach Shipbuilders & Engineers Ltd.

(भारत सरकार का उपक्रम) (A GOVERNMENT OF INDIA UNDERTAKING)

(गुणवत्ता आश्वासन विभाग) (Quality Assurance Department)

४३/४६, गार्डन रीच रोड, कोलकाता-७०००२४ ; 43/46, Garden Reach Road, Kolkata-700024

Phone: 033 2469-8100 to 8115 Extn (QA): 707,324; Fax: (033) 2469-8150 / 2489-3426 (QA)

Homepage: www.grse.nic.in

CIN: U35111WB1934GOI007891

Certificate of Appreciation

Date: 14 Nov 2023

Garden Reach Ship Builders and Engineers Limited (GRSE) takes immense pride in presenting this **Certificate of Appreciation** to **Centre of Excellence in Advanced Manufacturing Technology (CoEAMT)** at **Indian Institute of Technology Kharagpur, India**, in recognition of the remarkable achievement in successfully developing a software "**iWeld**" for Artificial Intelligence (AI)-enabled non-destructive testing of welding radiographs. This software has been developed through a consultancy project named as **AI enabled NDT (Project Code - NDTs)** with Prof Surjya K Pal, Professor in the Department of Mechanical Engineering of IIT Kharagpur and Chairperson of the CoEAMT, as the Principal Investigator, which was started on August 01, 2021 and the software was successfully installed and handed over to GRSE on December 02, 2022.

The software has been developed by **Mr. Avishek Mukherjee**, Doctoral Scholar of IIT Kharagpur on the ideas conceived by **Prof. Surjya K Pal**.

Key Achievements of the said **AI-Enabled NDT** Project are as follows.

1. The software is capable to perform detection, classification, localization of defects.
2. The software has a built-in feature of **automatic report generation**.
3. The developed software is the **first of its kind with such a high accuracy**.
4. GRSE and IIT Kharagpur filled joint IPR.
5. This product got third party certification from IRCLSS.

Congratulations to the Prof Surjya K Pal and Mr Avishek Mukherjee on this exceptional milestone, and may your continued pursuit of excellence lead to even greater achievements in the future.

Sincerely,

Gulshan Ratan
General Manager (QA & IND)

गुलशन रतन / Gulshan Ratan
महाप्रबंधक (गु. आ. एच. आई. एन. डी.) / General Manager (QA & IND)
भारत सरकार का उपक्रम, रक्षा मंत्रालय
(A Government of India Undertaking, Ministry of Defence)
गार्डन रीच शिपबिल्डर्स एण्ड इंजीनियर्स लिमिटेड
GARDEN REACH SHIPBUILDERS & ENGINEERS LTD.
कोलकाता - ७०००२४ / Kolkata - 700024