



**Office of International Relations  
Indian Institute of Technology Kharagpur  
Kharagpur – 721 302**



Ref: 1449/2022/OIR

Date: 28.02.2022

**Sub: Request for Approval for Signing MoU with Garden Reach Shipbuilders & Engineers Ltd.**

The Centre of Excellence in Advanced Manufacturing Technology, IIT Kharagpur and Garden Reach Shipbuilders & Engineers Ltd. (GRSE) desire to sign an MoU for collaboration in leveraging competence and strengths in warship construction/ ship design/ naval architecture by way of undertaking process improvement using industry 4.0, AI/ML to pursue and optimize new state of the art warship construction . It may be noted that the Department of Ocean Engineering and Naval Architecture, IIT Kharagpur has already established collaboration with GRSE.

The MoU was discussed in the committee meeting on 21.12.2021. The committee had suggested certain modifications to the draft. The revised draft was shared with GRSE. The GRSE made some changes and shared the modified draft with us.

To this end, the draft MoU was circulated to the MoU Committee by email on February 23, 2022. The Deputy Director requested Dean SRIC for his recommendations as the matter is pertaining to SRIC and the approval from Dean SRIC was received on February 26, 2022. No other comments were received. The MoU is now being placed for Director's kind approval.

The MoU would be signed on March 10, 2022, in the upcoming Defexpo 2022, which would be held at Ahmedabad, Gujarat. It is proposed that Dean SRIC signs on behalf of IIT Kharagpur. The supporting email correspondence and Minutes of Meeting are enclosed. Director is requested to kindly approve the signing of the MoU.

This is placed for your kind consideration and approval.

Associate Dean IR

Dean OR

*Forwarded and recommended for kind consideration*

Deputy Director

Director

01.03.2022

# MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MoU) made on this \_\_\_\_\_ 2022 between **M/s. GARDEN REACH SHIPBUILDERS & ENGINEERS LTD**, a Govt. company incorporated under the Companies Act. 1956, and having its registered office at, 'GRSE BHAWAN', 61 Garden Reach Road, Kolkata – 700 024, **hereinafter referred to as "GRSE" of the FIRST PART**

AND

**INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR**, an autonomous university under Ministry of Human Resource Development, Govt of India located at Kharagpur - 721 302, West Bengal hereinafter referred to as 'IIT-KGP' of the **SECOND PART**, GRSE and IIT-KGP hereinafter individually referred to as 'Party' and collectively referred to as 'Parties'.

## 1. RECITAL:

- (a) GRSE, a Government of India Undertaking, under administrative control of Ministry of Defence (MoD), is a leading shipyard in the country engaged primarily in building of ships of Indian Navy and Indian Coast Guard and other military and para-military organizations of Government of India. GRSE has a self-contained Design Department for development of design of ships.
- (b) Indian Institute of Technology, Kharagpur (IIT-KGP) is a world renowned technological institute of excellence and possess requisite knowledge / expertise, to take up specialized research and develop design related projects in respect to ship design through its Centre of Excellence in Advanced Manufacturing Technology and Department of Ocean Engineering and Naval Architecture.
- (c) GRSE and 'IIT-KGP' have desired to form an association in the form of MoU to effectively leverage competence and strengths in warship construction/ ship design/naval architecture by way of undertaking process improvement using industry 4.0, AI/ML to pursue and optimize new state of the art warship construction.

## 2. UNDERSTANDING:

In consideration of mutual understandings the Parties hereto agree as follows:-

(a) GRSE to augment the capability of its **Design Department/ Quality Assurance Department** will require necessary expertise / assistance / specialized technical services which will be provided by IITKGP against placement of orders from time to time.

(b) GRSE may require the following services from IITKGP.

Through its Department of Ocean Engineering and Naval Architecture:

- (i) Hydrodynamic assessment/ evaluation of hull form designs developed by GRSE in respect of Resistance, propulsion, Seakeeping and Maneuvering characteristics through Computational Fluid Dynamics (CFD) and scaled model testing, as necessary. Refinement in hull form design to be recommended for optimum performance.
- (ii) Hydrodynamic Studies/ evaluation using CFD for hull appendage interaction as well as hull-sea inlet interaction with recommendations for additional fairing surface for optimum flow separation/ Underwater noise.
- (iii) Other special developmental studies pertaining to aerodynamics/ Plume trajectory path/ Wind resistance etc through CFD analysis and Wind tunnel Testing, as necessary.
- (iv) Structural design/ Analysis/ Optimization of ship structure- Steel/ Aluminium/ GRP
- (v) Improving Production accuracy, process development
- (vi) Manpower development through short-courses/ Workshop etc.

Through its Centre of Excellence in Advanced Manufacturing Technology

- (i) Industry 4.0 solution for manufacturing technology for real-time metrological inspection.
- (ii) Implementing AI/ML, Robotics, Industry 4.0, IIOT, IOT, Digitization and Digital Process Automation projects in the field of welding technology.
- (iii) Technical consultancy and Identification of suitable use cases / implementable projects within the scope of Shipyard processes for process improvement and using Industry 4.0, AI &ML.
- (iv) Real-time defect control in manufacturing/machine using multiple sensors and improve efficiency and throughput.
- (v) Other special developmental studies pertaining to AI/ML, Robotics, Industry 4.0, IIOT, IOT
- (vi) Improving Production accuracy, process development. Manpower development through Training and short-courses, Workshop etc.
- (vii) Maximize Application of data analytics and machine learning on connecting machines and people in real time with industry 4.0 solution.

Further, GRSE may require following additional services from IITKGP:

- (i) Implementation of AI functionality using approaches such as (but not limited to): computer vision / Image recognition, Context aware computing, Deep

Learning / Machine Learning, Speech recognition / translation, Big data analytics, Data mining Natural Language Processing (Machine translation and question answering), Internet of Things (IoT), Methodology for dictionary and knowledge base construction etc.

- (ii) Focus areas may include but not limited to AI empowered on-board cybersecurity system, Real time actionable surveillance, Predictive maintenance of equipment, AI enabled IPMS (Integrated platform Management system) and IBS (Integrated Bridge System), developing virtual assistant, Compliance Check, Specification Search/Alternative suggestion (Graphic/voice based Interactive UI development), Intelligent Inventory search/Material Codes, Open cognitive platform for smart monitoring and intelligent resource management etc.
- (iii) Identification of focus areas, develop AI algorithms as well as architecture of the model the performance during training of model, evaluation of deployed models and provide periodic status of the project / product.
- (iv) Assistance / consultancy for setting up AI infrastructure/ AI testbeds at GRSE that may include Data Storage centre and network, Data cleansing / scrubbing (pre- processing) and processing facilities, Integration of IoT devices.
- (v) Consultancy / Third party vetting of statement of work, review of AI project progress, vetting of completed project by private sector firm or academia.

(c) In case of execution of such orders, GRSE will provide necessary drawings or technical inputs to IITKGP as may be required which shall be treated as confidential. IITKGP shall not disclose or part with such technical inputs or drawings to a third party without written consent from GRSE. In this regard, IITKGP shall submit a confidentiality / nondisclosure agreement with GRSE, before said technical inputs are handed over to them by GRSE.

(d) The terms and conditions of the agreement including scope of supply of documents or other inputs / deliverables, technical inputs by each Party in each case shall be mutually decided and incorporated in the orders to be placed by GRSE or agreements to be entered into.

(e) Information disclosed by GRSE in the course of the work under MoU shall not be disclosed or divulged to any party / firm or company, whether involved or not involved with the project work under MoU, including any other shipyards without prior written consent/concurrence of GRSE. In the event of shortage of required human resources and extreme necessity and exceptional urgency IIT-KGP may seek assistance of third parties in execution of assigned jobs for GRSE. However, this will be done with due prior permission from GRSE in writing. Also, IIT-KGP will execute a non-disclosure agreement with the concerned third party with whom confidential and proprietary information of GRSE will be shared.

(f) Payment will be released to IIT-KGP through ECS against particular assignment / order within a period of 45 days from the date of receipt of invoice and the term of payment as decided against specific agreement will be accordingly made and payment released.

(g) GRSE, in consideration of assistance needed from IIT-KGP shall define the scope of work with a time frame, clearly specifying the inputs to be given by GRSE and corresponding deliverables sought from IIT-KGP. The said scope of work along with particulars and payment terms will be mutually agreed between the Parties on a case to case basis.

### **3. OBLIGATIONS OF THE PARTIES:**

#### **(I) IIT-KGP**

- (i) In performing the works or in consideration of any job to be entrusted to IIT-KGP, IIT-KGP shall not refuse such job / works on any other ground except when they specifically express their inability to carry out the same owing to sheer limitation of knowledge and when specific terms and conditions are not commercially viable to IIT-KGP.
- (ii) Assume, manage and mitigate by the risks involved in bringing the job / work to completion.
- (iii) Exercise development skill, care and diligence in the execution / completion of the entrusted work so that they are capable of fitting for their intended purpose.
- (iv) Ensure that the performance of the jobs / works is in compliance with the defined scope of work, directives, agreements or statutory requirements and best engineering practices.
- (v) IIT-KGP upon completion of their studies / analysis / calculation should submit / make available to GRSE the final outcome / results / suggestion / reports along with the ways and means adopted at their end.

#### **(II) GRSE**

- (i) GRSE shall issue / place orders within appropriate time in order to enable IIT-KGP to provide the technical services / inputs on mutually time.
- (ii) GRSE shall be specific with its Scope of Requirement (SOR) so as to avoid any dispute in the future as also to ensure that such Scope of Requirements does not get altered too many times to bring in the desired result with a firm and stable SOR.
- (iii) GRSE shall be prompt enough to disburse the payment to IIT-KGP within due date as specified in the agreement unless otherwise mutually decided.
- (iv) In case, it is in the interest of the order necessary for IIT-KGP to ask for some information to reach a conclusive decision on technical issues under the agreement, GRSE shall be obliged to give such information to the extent available with GRSE within such time as may be appropriate so as to bring conclusion to the job ensuring within the time proposed in the agreement.

### **4. METHODOLOGY OF FUNCTIONING AND PAYMENT TERMS:**

(a) Wherever there is any requirement for which GRSE needs assistance from IIT-KGP in the above mentioned areas of MoU, GRSE shall define the Scope of Work (SOW) with a time frame, clearly delineating the inputs to be given by GRSE as well as outputs sought from IIT-KGP. The said SOW along with price, and payment terms will be mutually agreed between the Parties on a case to case basis.

(b) However, to meet the incidental expenses incurred by IIT-KGP in relation with GRSE work, a seed money, may be paid to IIT-KGP through the agreement which will be decided later.

## **5. DURATION AND TERMINATION:**

- (a) This MoU is valid for a period of 5 (five) years from the date, month and year mentioned above, unless terminated or extended in writing by both Parties.
- (b) Either Party may terminate this MoU by giving the other Party thirty days (30 days) prior written notice of termination.
- (c) In the event of termination by GRSE, when such termination is not due to breach of obligations by IIT-KGP, GRSE agrees to pay IIT-KGP for all costs up to the date of termination, including all uncancelable commitments but such liability to IIT-KGP shall not exceed the total amounts payable by GRSE under the terms of this MoU or any other subsequent agreement for the works mentioned above, had this MoU or the agreement continued without termination.
- (d) In the event of termination by IIT-KGP, when such termination is not due to breach of obligations by GRSE and is with the prior written consent of GRSE, IIT-KGP shall return all unspent amounts remaining out of the total payments made to IIT-KGP by GRSE under this MoU or any other agreement for the works mentioned above.
- (e) If this MoU is terminated by GRSE due to any act or omission attributable to IIT-KGP, GRSE shall have no liability (including any obligation to make any payments of any amount to IIT-KGP in any other agreement for the works mentioned above) whatsoever towards IIT-KGP.

## **6. INTELLECTUAL PROPERTY:**

- 6.1 Intellectual Property construe:
  - (a) Inventions, discoveries, and Naval designs, all basic designs and drawing whether or not registrable as designs or patent including in any definition of or developments or improvements to technology, methods of technologies; and
  - (b) Entire copy-right of various documents, specifications and other copy-right works.
- 6.2 Except as provided in Section 6.4 below, IIT-KGP and GRSE agree that that post execution of this all Work Product is being developed for GRSE. IIT-KGP and GRSE shall own all intellectual property rights in the Work Product equally. However, IIT-KGP agrees to irrevocably assign, transfer, grant and convey, and hereby assigns, transfers, grants, and conveys, to GRSE, its successors and assignees, all of IIT-KGP's right, title and interest in and to all Work Product and all copyrights, patent rights, trade secrets and other intellectual property rights represented or embodied therein, all free and clear of any and all liens, encumbrances, charges and claims whatsoever for the sole purpose of business development of GRSE.
- 6.3 Notwithstanding anything contained in this MoU, and specifically in this Clause 6, IIT-KGP acknowledges and agrees that GRSE, and shall remain, the owners of all right, title and interest in and to GRSE's products and all related documentation, drawings (including, without limitation, all modifications, new versions, enhancements and updates thereto), and all intellectual property rights therein, and that IITKGP shall not obtain or claim any ownership interest in the GRSE's products or related documentation, drawings or any portion thereof, or any intellectual property rights therein.
- 6.4 Notwithstanding anything contained above in Clause 6.3, GRSE hereby agrees that it shall not be entitled for any transfer or assignment of any IPR, patent, work processes or other IPR rights which are already owned by IIT-KGP before execution of this MoU.

**7. CONFIDENTIALITY:**

(a) During the tenure of this MoU and five years thereafter both teams of IITKGP and GRSE working in this project undertake on their behalf and on behalf of their subcontractors / employees / representatives / associates to maintain strict confidentiality and prevent disclosure thereof, of all the information and data exchanged / generated pertaining to the project under this MoU for any purposes other than in accordance with this MoU. During the tenure of this MoU all information considered confidential should be explicitly stated as confidential.

(b) Both IIT-KGP and GRSE shall take sufficient care that there is no wrongful publication and / use of the study and its outcome by either or any of its employees, associates or persons connected with the project, during the pendency of research under this MoU.

**8. NON DISCLOSURE:**

Parties shall not publicly announce or disclose the existence of agreement, terms or conditions, or advertise or release any publicity regarding this MoU without the prior written consent of the other Party. This provision shall survive even after the expiration of this MoU.

**9. FORCE MAJEURE:**

If the performance of IIT-KGP under this MoU is delayed, hindered or prevented due to civil commotion or disturbance, fire, flood, action by government or any act of god beyond reasonable control of IIT-KGP, then IITKGP shall promptly notify GRSE in writing specifying the nature of the force majeure and of the anticipated delay in the performance of this MoU, and as of the date of that notification, GRSE may suspend the performance of this MoU or any subsequent Agreement until the cause of the delay ends. If such force majeure conditions linger for over three months, GRSE reserves the right to terminate or foreclosure the MoU or any subsequent Agreement without any financial implication. However, costs incurred prior to notice of force majeure shall be reimbursed to IITKGP by GRSE.

**10. DISPUTE SETTLEMENT:**

(i) If at any time, before during or after the contract period, any unsettled claim, question, dispute or difference arises between the parties, upon or in relation to or in connection with or in any way touching or concerning this order, the same shall be settled/adjudicated through Arbitration to be conducted by a Sole Arbitrator, to be appointed by the parties on mutual consent, in accordance with the provisions of the Arbitration and Conciliation Act, 1996.

(ii) In the event the parties fail to mutually appoint a Sole Arbitrator within 30 days from the receipt of a request by one party from the other, then either of the parties may approach the Hon'ble High Court at Calcutta under the provisions of the Arbitration and Conciliation Act, 1996 for appointment of a Sole Arbitrator by the Hon'ble Court.

(iii) Such arbitration shall, in all respects, be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996 and the rules framed there

under or any statutory modification or re-enactment thereof for the time being in force.

(iv) The Award of the Sole Arbitrator shall be final, conclusive and binding upon the parties.

(v) In the event of the death or resignation or incapacity or whatsoever of the said Sole Arbitrator if appointed by the parties mutually the said parties may again appoint a suitable Substitute Arbitrator in place of the erstwhile Sole Arbitrator to continue with the proceedings. In the event of appointment of the Sole Arbitrator by the Hon'ble High Court at Calcutta on death or resignation or incapacity or whatsoever of the said Sole Arbitrator, either of the parties in this behalf, may make an application to the Hon'ble High Court at Calcutta for appointment of a Substitute Arbitrator and the Hon'ble Court may pass such orders as it deems fit and proper.

(vi) Also in the event an Arbitration award is set aside by a competent court the parties may appoint a Sole Arbitrator mutually or on failing to appoint a Sole Arbitrator mutually within the statutory period then either of the parties may file an application before the Hon'ble High Court at Calcutta under the provisions of the Arbitration and Conciliation Act, 1996 for appointment of a Sole Arbitrator by the Hon'ble Court in accordance with the provisions of the Arbitration & Conciliation Act.

(vii) The cost of the arbitration, fees of the arbitrator, remuneration of the stenographer and clerk, stamp paper etc. shall be shared equally by the parties, unless otherwise directed by the Sole Arbitrator. The venue of arbitration shall be at Kolkata and unless otherwise decided by the parties or by the Sole Arbitrator himself, the venue shall be the premises of Garden Reach Shipbuilders & Engineers Ltd. Located at 43/46, Garden Reach, Kolkata-700024.

(viii) The language of the proceeding shall be in English.

#### **11. MISCELLANEOUS:**

All communications given or made under or in connection with the matters contemplated by this MoU shall be in writing and shall be delivered personally or sent by registered post with acknowledgement due or fax at the address to be set forth in the order or such other addresses as may be indicated from time to time.

IN WITNESS WHEREOF both the Parties hereto set their hands and signed the Agreement on the day, month and year mentioned above.

For and on Behalf of  
**IIT Kharagpur**  
PO: Kharagpur Technology,  
721 302

For and on Behalf of  
Garden Reach Shipbuilders  
& Engineers limited, 'GRSE BHAWAN'  
61, Garden Reach Road,  
Kolkata – 700 024

Dean SRIC

Director (Ship Building)

Date:

Date:

WITNESS :

WITNESS:

1.

1.

2.

2.



**Office of International Relations  
Indian Institute of Technology Kharagpur**

**Proposal for entering into an institutional MoU with a national/international  
partner university/ institution/ organization**

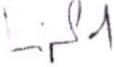
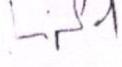
*Instructions:*

Please submit the signed hardcopy along with supporting documents to Dean IR

Please email scanned copy of this form along with softcopies of supporting documents to:

[moutrack@adm.iitkgp.ac.in](mailto:moutrack@adm.iitkgp.ac.in), [aeanir@adm.iitkgp.ac.in](mailto:aeanir@adm.iitkgp.ac.in)

Name and address of proposed partner	GRSE, India
National / international standing of proposed partner	National
Extent of past / ongoing collaborations between IIT Kharagpur and proposed partner	Long collaborations with OE&NA Dept and with CoEAMT since last few months.
Expected activities in the next 3 years if MoU is signed	Research in the field of OE&NA and Industry 4.0 applications.

How the MoU will benefit IIT Kharagpur	The strong collaboration with GRSE will help doing our researchers to work on the real-life industrial problems.
Does the proposed partner have an MoU with any other IIT? If yes, please give details	Yes, An Mou already does exist with the OE&NA dept of IIT KGP.
Has the proposed partner accepted IIT Kharagpur's standard MoU template?	Yes
If No above, has the proposed partner suggested any MoU draft? If yes, please attach	Yes/ No
MoU proposed by (Name, Designation and Signature of Proposing Faculty)	<p>Name: Surjya K Pal  Designation: Chairperson,  Affiliation: Centre of Excellence in Advanced Manufacturing Technology, IIT Kharagpur  Email: <a href="mailto:coeamt@iitkgp.ac.in">coeamt@iitkgp.ac.in</a>, <a href="mailto:surjya.pal@icloud.com">surjya.pal@icloud.com</a>, <a href="mailto:skpal@mech.iitkgp.ac.in">skpal@mech.iitkgp.ac.in</a>  Phone: 9434701972</p> <p>Signature: </p>
Recommended by Head/Dean (Signature with date and seal)	
Forwarded by Dean IR	
Approval by DD for placing at MoU Committee	
OIR Notings	

5/12/2021

**Office of the Dean, International Relations  
Indian Institute of Technology Kharagpur**

Date: 22nd Dec, 2021

**Subject: Minutes of the MoU Committee Meeting Dated 21<sup>st</sup> Dec, 2021.**

The MoU Committee comprising of the undersigned members met on 21<sup>st</sup> Dec, 2021 through Online Mode. The minutes and resolutions of the meeting are as under.

Prof. Amit Patra	Chairman, MoU Committee
Prof. Jayanta Mukhopadhyay	Dean, OR
Prof. V.R. Desai	Dean, FoEA
Prof. G.P. Raja Sekhar	Dean, FoS
Prof. Saswat Chakraborty	Dean, FoBTBS
Prof. Suman Chakraborty	Dean, SRIC
Prof. Surjya Kanta Pal	Associate Dean, AA & Branding
Dr. Anandaroop Bhattacharya	Associate Dean, IR & Ranking (Secretary & Convener)

**Signed Reporting Items:**

SL	Partner	Partnership	Coordinator	D/S/C
1	European Spallation Source (ESS)	MoU	Parthasarathi Ghosh & T.S. Datta	Cryogenic
2	National Institute of Urban Affairs (NIUA)	MoU	Haimanti Banerjee	ARP
3	Virginia Tech, Joint Certificate Prog.	Agmt	Anandaroop Bhattacharya	ADeanIR&R

**Action Items:**

**1. New MoU with *M/s. Garden Reach Shipbuilders & Engineers Ltd*: S.K. Pal, ME**

**Resolution:** The committee recommended that instead of signing an amendment to the existing MoU, the scope of the MoU be expanded to include the suggested modifications and the document be renewed for a duration of 5 years. Once the new MoU is signed, the existing version will be rendered null and void.

It was suggested that Dean SRIC be the signatory of the new MoU.

**2. New MoU with *University of Torino (UNITO)*: Manish Mamtani, GG**

**Resolution:** The MoU is approved. It was suggested that Mr. R.K Rawat (Sr. Hindi Officer, IITKGP) be requested to provide the Hindi version of the MoU and UNITO provides the Italian version. Once the trilingual versions become available, the MoU may be placed for signatures.

**3. New MoU with *California State University, Sacramento*: Prof. Priyadarshi Patnaik, Head Rekhi Centre**

**Resolution:** The MoU is approved for signatures.

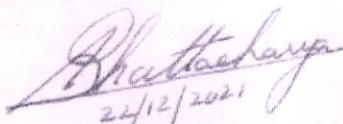


4. New MoU with **TVS Credit Services Ltd**: Prof. Rajib Maity, Vice Chairman CDC

**Resolution:** It was noted that TVS Credit Services Ltd. has not approached IITKGP after the decision from the last meeting was communicated to them. The draft MoU may be revisited after updates are received from them.

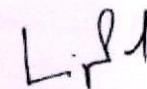
5. New MoU with **Atomic Minerals Division (AMD) and Academic Institutes**: Prof. Saibal Gupta, GG

**Resolution:** The committee recommended that the draft MoU may be modified to make it relevant to the purpose of IITKGP. The document may be passed on to the next Head, Geology & Geophysics for circulation within the dept. and review in the next MoU committee meeting.



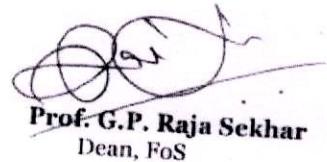
22/12/2021

**Dr. Anandaroop Bhattacharya**  
Associate Dean, IR (Secretary & Convener)



L. K. Pal

**Prof. Surjya Kanta Pal**  
Associate Dean, AA



24/12/2021

**Prof. G.P. Raja Sekhar**  
Dean, FoS

ABSENT

**Prof. Suman Chakraborty**  
Dean, SRIC



24/12/2021

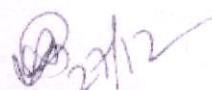
**Prof. M. Ramgopal**  
Dean FoEA (officiating)

ABSENT

**Prof. Saswat Chakraborty**  
Dean, FoBTBS

ABSENT

**Prof. Jayanta Mukhopadhyay**  
Dean, OR



24/12/2021

**Prof. Amit Patra**  
Dy. Director and Chairman, MoU Committee

**Re: MoU Committee approval of modified GRSE-KGP MoU**

Sat, Feb 26, 2022 02:48 PM

**From :** Prof. Suman Chakraborty <suman@mech.iitkgp.ac.in>  
**Subject :** Re: MoU Committee approval of modified GRSE-KGP MoU

**To :** goutam <goutam@mech.iitkgp.ac.in>  
**Cc :** dydir <dydir@hijli.iitkgp.ac.in>, Amit Patra <amit.patra@ieee.org>, deanor <deanor@adm.iitkgp.ac.in>, Jayanta Mukhopadhyay <jay@cse.iitkgp.ac.in>, IIT KGP  
BRANDING CELL <iitkgp.branding@adm.iitkgp.ac.in>, SURJYA K PAL <surjya.pal@gmail.com>

**Reply To :** suman@mech.iitkgp.ac.in

Dear Goutam-da,

I have gone through the MOU draft. This concerns a flagship Project undertaken by the Advanced Manufacturing Center under Surjya-da. With Surjya-da's recommendation, I am okay with it and this may please be taken further forward towards final formalization.

Regards,  
Suman

----- Original Message -----

From: "goutam" <goutam@mech.iitkgp.ac.in>  
To: "dydir" <dydir@hijli.iitkgp.ac.in>, "Amit Patra" <amit.patra@ieee.org>, "Dean FoS" <deanfos@iitkgp.ac.in>, "deanbtbs" <deanbtbs@iitkgp.ac.in>, "deanfoea" <deanfoea@iitkgp.ac.in>, "suman" <suman@mech.iitkgp.ac.in>, "deansr" <deansr@hijli.iitkgp.ac.in>, "dc" <dc@mining.iitkgp.ac.in>, "deanor" <deanor@adm.iitkgp.ac.in>, "Jayanta Mukhopadhyay" <jay@cse.iitkgp.ac.in>  
Cc: "IIT KGP BRANDING CELL" <iitkgp.branding@adm.iitkgp.ac.in>  
Sent: Thursday, February 24, 2022 9:35:54 AM  
Subject: Re: MoU Committee approval of modified GRSE-KGP MoU

Dear all,

Since I have not received any communication from you on the concerned MoU so far, I assume your silence to signal your approval. Subsequently the MoU will be placed for final approval from the Director.

With warmest regards,

Goutam

----- Original Message -----

From: "goutam" <goutam@mech.iitkgp.ac.in>  
To: "dydir" <dydir@hijli.iitkgp.ac.in>, "amit patra" <amit.patra@ieee.org>, "Dean FoS" <deanfos@iitkgp.ac.in>, "deanbtbs" <deanbtbs@iitkgp.ac.in>, "deanfoea" <deanfoea@iitkgp.ac.in>, "suman" <suman@mech.iitkgp.ac.in>, "deansr" <deansr@hijli.iitkgp.ac.in>, "Chairman21" <dc@mining.iitkgp.ac.in>, "deanor" <deanor@adm.iitkgp.ac.in>, "Jayanta Mukhopadhyay" <jay@cse.iitkgp.ac.in>  
Cc: "IIT KGP BRANDING CELL" <iitkgp.branding@adm.iitkgp.ac.in>  
Sent: Wednesday, February 23, 2022 10:12:28 AM  
Subject: MoU Committee approval of modified GRSE-KGP MoU

Dear committee members,

Please find attached

1. New MoU between GRSE and IITKGP prepared following the advice of the committee (21st Dec, 2021)

2. MoU top cover signed by the proposer.
3. Minutes of Meeting of MoU Committee held on 21st Dec, 2021.
4. Old MoU between GRSE and IITKgp to be replaced by the new one.

Due to unavailability of time slot for conducting a MoU Committee meeting and considering the interest of GRSE in signing the MoU on 10th March in a programme in Ahmedabad, the documents are being sent to you for your comments/approval. Once approved by the committee the same will be placed before the Director for his final approval.

Zimbra

iitkgp.branding@adm.iitkgp.ac.in

**Re: MoU Committee approval of modified GRSE-KGP MoU**

**From :** Amit Patra <deputydirector.iitkgp@gmail.com> Thu, Feb 24, 2022 09:54 AM  
**Subject :** Re: MoU Committee approval of modified GRSE-KGP MoU  
**To :** goutam@mech.iitkgp.ac.in  
**Cc :** dydir <dydir@hijli.iitkgp.ac.in>, amit patra <amit.patra@ieee.org>, Dean FoS <deanfos@iitkgp.ac.in>, deanbtbs <deanbtbs@iitkgp.ac.in>, deanfoea <deanfoea@iitkgp.ac.in>, suman <suman@mech.iitkgp.ac.in>, deansr <deansr@hijli.iitkgp.ac.in>, Chairman21 <dc@mining.iitkgp.ac.in>, deanor <deanor@adm.iitkgp.ac.in>, Jayanta Mukhopadhyay <jay@cse.iitkgp.ac.in>, IIT KGP BRANDING CELL <iitkgp.branding@adm.iitkgp.ac.in>

Since it is a matter pertaining to SRIC, I request the Dean (SRIC) to provide his recommendation.

On Thu, Feb 24, 2022 at 9:31 AM <goutam@mech.iitkgp.ac.in> wrote:

Dear all,

Since I have not received any communication from you on the concerned MoU so far, I assume your silence to signal your approval. Subsequently the MoU will be placed for final approval from the Director.

With warmest regards,

Goutam

----- Original Message -----

From: "goutam" <goutam@mech.iitkgp.ac.in>  
To: "dydir" <dydir@hijli.iitkgp.ac.in>, "amit patra" <amit.patra@ieee.org>, "Dean FoS" <deanfos@iitkgp.ac.in>, "deanbtbs" <deanbtbs@iitkgp.ac.in>, "deanfoea" <deanfoea@iitkgp.ac.in>, "suman" <suman@mech.iitkgp.ac.in>, "deansr" <deansr@hijli.iitkgp.ac.in>, "Chairman21" <dc@mining.iitkgp.ac.in>, "deanor" <deanor@adm.iitkgp.ac.in>, "Jayanta Mukhopadhyay" <jay@cse.iitkgp.ac.in>  
Cc: "IIT KGP BRANDING CELL" <iitkgp.branding@adm.iitkgp.ac.in>  
Sent: Wednesday, February 23, 2022 10:12:28 AM  
Subject: MoU Committee approval of modified GRSE-KGP MoU

Dear committee members,

Please find attached

1. New MoU between GRSE and IITKGP prepared following the advice of the committee (21st Dec, 2021)
2. MoU top cover signed by the proposer.

3. Minutes of Meeting of MoU Committee held on 21st Dec, 2021.
4. Old MoU between GRSE and IITKgp to be replaced by the new one.

Due to unavailability of time slot for conducting a MoU Committee meeting and considering the interest of GRSE in signing the MoU on 10th March in a programme in Ahmedabad, the documents are being sent to you for your comments/approval. Once approved by the committee the same will be placed before the Director for his final approval.

It will be appreciated if you kindly send your comments by today (23rd February).

With best regards,

Goutam

--  
 Dr. Goutam Chakraborty  
 Professor, Department of Mechanical Engineering  
 Associate Dean, International Relations and Ranking  
 Indian Institute of Technology Kharagpur  
 Kharagpur, INDIA-721302  
 Ph: (91)3222-282994

--  
 Dr. Goutam Chakraborty  
 Professor, Department of Mechanical Engineering  
 Associate Dean, International Relations and Ranking  
 Indian Institute of Technology Kharagpur  
 Kharagpur, INDIA-721302  
 Ph: (91)3222-282994

---

**From :** goutam@mech.iitkgp.ac.in Thu, Feb 24, 2022 09:35 AM

**Subject :** Re: MoU Committee approval of modified GRSE-KGP MoU

**To :** dydir <dydir@hijli.iitkgp.ac.in>, amit patra <amit.patra@ieee.org>, Dean FoS <deanfos@iitkgp.ac.in>, deanbtbs <deanbtbs@iitkgp.ac.in>, deanfoea <deanfoea@iitkgp.ac.in>, suman <suman@mech.iitkgp.ac.in>, deansr <deansr@hijli.iitkgp.ac.in>, Chairman21 <dc@mining.iitkgp.ac.in>, deanor <deanor@adm.iitkgp.ac.in>, Jayanta Mukhopadhyay <jay@cse.iitkgp.ac.in>

**Cc :** IIT KGP BRANDING CELL <iitkgp.branding@adm.iitkgp.ac.in>

Dear all,

Since I have not received any communication from you on the concerned MoU so far, I assume your silence to signal your approval. Subsequently the MoU will be placed for final approval from the Director.

With warmest regards,

Goutam

----- Original Message -----

From: "goutam" <goutam@mech.iitkgp.ac.in>  
To: "dydir" <dydir@hijli.iitkgp.ac.in>, "amit patra" <amit.patra@ieee.org>, "Dean FoS" <deanfos@iitkgp.ac.in>, "deanbtbs" <deanbtbs@iitkgp.ac.in>, "deanfoea" <deanfoea@iitkgp.ac.in>, "suman" <suman@mech.iitkgp.ac.in>, "deansr" <deansr@hijli.iitkgp.ac.in>, "Chairman21" <dc@mining.iitkgp.ac.in>, "deanor" <deanor@adm.iitkgp.ac.in>, "Jayanta Mukhopadhyay" <jay@cse.iitkgp.ac.in>  
Cc: "IIT KGP BRANDING CELL" <iitkgp.branding@adm.iitkgp.ac.in>  
Sent: Wednesday, February 23, 2022 10:12:28 AM  
Subject: MoU Committee approval of modified GRSE-KGP MoU

Dear committee members,

Please find attached

1. New MoU between GRSE and IITKGp prepared following the advice of the committee (21st Dec, 2021)
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4. Old MoU between GRSE and IITKgp to be replaced by the new one.

Due to unavailability of time slot for conducting a MoU Committee meeting and considering the interest of GRSE in signing the MoU on 10th March in a programme in Ahmedabad, the documents are being sent to you for your comments/approval. Once approved by the committee the same will be placed before the Director for his final approval.

It will be appreciated if you kindly send your comments by today (23rd February).

With best regards,

Goutam

--

Dr. Goutam Chakraborty  
Professor, Department of Mechanical Engineering  
Associate Dean, International Relations and Ranking  
Indian Institute of Technology Kharagpur  
Kharagpur, INDIA-721302  
Ph: (91)3222-282994

--

Dr. Goutam Chakraborty  
Professor, Department of Mechanical Engineering  
Associate Dean, International Relations and Ranking  
Indian Institute of Technology Kharagpur  
Kharagpur, INDIA-721302  
Ph: (91)3222-282994

Wed, Feb 23, 2022 10:12 AM

4 attachments

**From :** goutam@mech.iitkgp.ac.in  
**Subject :** MoU Committee approval of modified GRSE-KGP MoU

**To :** dydir <dydir@hijli.iitkgp.ac.in>, amit patra <amit.patra@ieee.org>, Dean FoS <deanfos@iitkgp.ac.in>, deanbtbs <deanbtbs@iitkgp.ac.in>, deanfoea <deanfoea@iitkgp.ac.in>, suman <suman@mech.iitkgp.ac.in>, deansr <deansr@hijli.iitkgp.ac.in>, Chairman21 <dc@mining.iitkgp.ac.in>, deanor <deanor@adm.iitkgp.ac.in>, Jayanta Mukhopadhyay <jay@cse.iitkgp.ac.in>

**Cc :** IIT KGP BRANDING CELL  
 <iitkgp.branding@adm.iitkgp.ac.in>

Dear committee members,

Please find attached

1. New MoU between GRSE and IITKGP prepared following the advice of the committee (21st Dec, 2021)
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It will be appreciated if you kindly send your comments by today (23rd February).

With best regards,

Goutam

--

Dr. Goutam Chakraborty  
 Professor, Department of Mechanical Engineering  
 Associate Dean, International Relations and Ranking  
 Indian Institute of Technology Kharagpur  
 Kharagpur, INDIA-721302  
 Ph: (91)3222-282994

— NEW VERSION MOU WITH GRSE MODIFIED DRAFT DATED 21022022.docx  
 29 KB

— MoU TOP COVER\_GRSE Feb 21.pdf  
 156 KB

— MINUTES OF MoU COMMITTEE MEETING- Dec21.pdf

202 KB

— **GRSE\_MOU-KGP-signed-old.pdf**

2 MB

---

Zimbra

iitkgp.branding@adm.iitkgp.ac.in

**Fwd: MOU with GRSE**

**From :** Koushiki Mukherjee <koushiki@adm.iitkgp.ac.in> **Wed, Feb 16, 2022 03:32 PM**  
**Subject :** Fwd: MOU with GRSE **1 attachment**  
**To :** rituani07 <rituani07@gmail.com>, IIT KGP  
 BRANDING CELL <iitkgp.branding@adm.iitkgp.ac.in>

External images are not displayed. [Display images below](#)

Ritu,

This needs to be handled within the next couple of days at the most.

Best Wishes,  
 Koushiki Mukherjee (*She/Her*)  
 International Relations Executive  
 IIT Kharagpur.  
 Office: +91 3222-281064

**From:** "SURJYA KANTA PAL" <surjya.pal@icloud.com>  
**To:** "Koushiki Mukherjee" <koushiki@adm.iitkgp.ac.in>, "goutam" <goutam@mech.iitkgp.ernet.in>  
**Cc:** "Anandaroop Bhattacharya" <anandaroop@mech.iitkgp.ac.in>  
**Sent:** Wednesday, February 16, 2022 3:09:16 PM  
**Subject:** MOU with GRSE

Dear Prof Chakraborty

Please see the inputs from the GRSE, implemented in the MoU document. Requesting your office to do the needful for the approval from the competent authority. **This MoU will be signed at the Defexpo, Ahmedabad on March 10, where I shall be present and the will also request our Dean SRIC to be present.**

It would be very kind of you if could get the needful job done at the earliest.

Thanks.

Regards.

-Surjya K Pal

=====

Signature file

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Surjya K Pal

Lord Kumar Bhattacharyya Chair Professor in Manufacturing  
 Professor, Department of Mechanical Engineering  
 Chairperson, Centre of Excellence in Adv Manuf Tech ( <http://www.coeamt.com> )

Professor-in-Charge, Metrology Lab & FSW Lab ( <http://www.fswlab.in> )  
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR  
721 302, WB, INDIA  
Ph: +91-3222-281576, +91-9434701972  
=====  
Web Address: <http://www.fswlab.in/skpal>  
=====

Begin forwarded message:

**From:** "qa.mgr, Umesh Paswan" <Paswan.Umesh@grse.co.in>  
**Subject: RE: subject MOU and project AI Enabled NDT**  
**Date:** 14 Feb 2022 at 4:02 pm  
**To:** SURJYA KANTA PAL <surjya.pal@icloud.com>  
**Cc:** "qa.gm, Cdr Bhaskar Sengupta" <Sengupta.Bhaskar@grse.co.in>, "vd&iep.dgm, Harihar Das" <Das.Harihar@grse.co.in>, "cdo.dgm, Saumya Sengupta" <Sengupta.Saumya@grse.co.in>

Dear Sir,

As discussed as on date.

1. Revised (Heighted ) MOU is attached herewith. This is for your necessary scrutiny and approval please.
2. May please forward the Details of **Dean SRIC and NDT Team** ( Total-03 Personnel's) for official invitation and administrative arrangements please.

**NAME:**

**Mail ID:**

**Designation:**

**Contact No. and Etc.**

धन्यवाद एवं सादर

(Thanks & Regards)

उमेश पासवान / Umesh Paswan

प्रबंधक/ Manager

गुणवत्ता आव्हासन/ QA (Main Unit)

Garden Reach Shipbuilders & Engineers Limited

गार्डन रीच शिपबिल्डर्स एण्ड इंजीनयर्स लिमिटेड

( Govt. of India Undertaking - Ministry of Defence)

( भारत सरकार का उपकरण - रक्षा मंत्रालय )

**From:** qa.mgr, Umesh Paswan

**Sent:** 11 February 2022 18:05

**To:** 'SURJYA KANTA PAL' <surjya.pal@icloud.com>

**Cc:** qa.gm, Cdr Bhaskar Sengupta <Sengupta.Bhaskar@grse.co.in>;

vd&iep.dgm, Harihar Das <Das.Harihar@grse.co.in>

**Subject:** subject MOU and project AI Enabled NDT

Dear sir

1. Reference to telephonic discussion as on date for the subject **MOU and Project AI Enabled NDT.**
2. As you are aware that the MOU between IIT Kharagpur and GRSE Ltd will be signed During **Defence Expo 10-13 March 2022** at Gandhinagar, Gujarat where Dean SRIC is signatory authority.

In this connection, the august presence of Dean SRIC is essential at Gandhinagar, Gujarat for the signing of final MOU Document in the presence of GRSE Top management.

3. Also, DEMO of project AI enabled NDT to be presented at Defence Expo during 10-13 March 2022 by IITKGP NDT Team.

May please forward the following details by Monday dated 14.02.2022

- a. Leaflet/brochure
- b. Animated movies covering entire process of NDT.
- c. Poster for display.
- d. Final DEMO of AI Software.

4. May please forward the Details of **Dean SRIC and NDT Team** ( Total-03 Personnel's) for official invitation and administrative arrangements please.

**NAME:**

**Mail ID:**

**Designation:**

**Contact No. and Etc**

धन्यवाद एवं सादर

(Thanks & Regards)

उमेश पासवान / Umesh Paswan

प्रबंधक/ Manager

गुणवत्ता आश्वासन/ QA (Main Unit)

Garden Reach Shipbuilders & Engineers Limited

गार्डन रीच शिपबिल्डर्स एण्ड इंजीनियर्स लिमिटेड

( Govt. of India Undertaking - Ministry of Defence)

( भारत सरकार का उपकरण - रक्षा मंत्रालय )

DISCLAIMER: The information contained in this electronic message and any attachments to this message are intended for the exclusive use of the addressee(s) and may contain proprietary, confidential or privileged information. If you are not the intended recipient, you should not disseminate, distribute or copy this e-mail. Please notify the sender immediately and destroy all copies of this message and any attachments contained in it.

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— **MoU with IIT-Kgp Revised R 2.docx**

29 KB

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**Zimbra****iitkgp.branding@adm.iitkgp.ac.in****Re: MoU with GRSE**

**From :** Koushiki Mukherjee <koushiki@adm.iitkgp.ac.in>  
**Subject :** Re: MoU with GRSE

Fri, Feb 04, 2022 01:39 PM

2 attachments

**To :** SURJYA KANTA PAL <surjya.pal@icloud.com>**Cc :** rituani07 <rituani07@gmail.com>, IIT KGP BRANDING  
 CELL <iitkgp.branding@adm.iitkgp.ac.in>, goutam  
 <goutam@mech.iitkgp.ac.in>, Associate Dean  
 International Relation <adeanir@adm.iitkgp.ac.in>External images are not displayed. [Display images below](#)

Dear Prof. Pal,

As per the committee resolution on the captioned MoU, the committee had resolved the following:

**Resolution:** The committee recommended that instead of signing an amendment to the existing MoU, the scope of the MoU be expanded to include the suggested modifications and the document be renewed for a duration of 5 years.

Once the new MoU is signed, the existing version will be rendered null and void.  
 It was suggested that Dean SRIC be the signatory of the new MoU.

Further to the above and based on my communication with Prof. Anandaroop Bhattacharya, I understand that the clauses under #1 'Recital' and #2 'Understanding' from the docX document and the blue stamp paper document has to be merged.

PFA the modified word doc.

I have merged the 'Recital' portion. Kindly note the couple of words in blue that has been used from the stamp paper version. Please determine if those portions will be included or not.  
 Please also note that while I have merged the clause on 'Recital', I am being unable to merge the clause on 'Understanding'.

Since the clause is rather technical in nature, I am not sure if I am competent enough to make the modifications myself keeping in mind the requirements of IITKGP and GRSE.  
 I therefore request you to take a look at the clause and suggest.

As discussed with you in our previous phone call, once merged, the modified draft will need to be shared with GRSE for their concurrence.

If approved, then the MoU will be placed for final approval and signatures of both parties.

Finally, I request you to communicate with Rituparna Chakraborty available @IITKGP Branding cell with the further processes as she is now taking over the MoU related activities.  
 I will of course provide administrative support/advice to Rituparna as required.

Best Wishes,  
 Koushiki Mukherjee (*She/Her*)  
 International Relations Executive  
 IIT Kharagpur.  
 Office: +91 3222-281064

**From:** "Koushiki Mukherjee" <koushiki@adm.iitkgp.ac.in>  
**To:** "SURJYA KANTA PAL" <surjya.pal@icloud.com>

**Cc:** "rituani07" <rituani07@gmail.com>, "IIT KGP BRANDING CELL" <iitkgp.branding@adm.iitkgp.ac.in>, "goutam" <goutam@mech.iitkgp.ac.in>, "Associate Dean International Relation" <adeanir@adm.iitkgp.ac.in>

**Sent:** Thursday, February 3, 2022 3:25:03 PM

**Subject:** Re: MoU with GRSE

Dear Prof. Pal,

I have spoken to Prof. Chakraborty about this and as I understand he will have a discussion with you regarding GRSE.

Best Wishes,  
 Koushiki Mukherjee (*She/Her*)  
 International Relations Executive  
 IIT Kharagpur.  
 Office: +91 3222-281064

**From:** "SURJYA KANTA PAL" <surjya.pal@icloud.com>

**To:** "Koushiki Mukherjee" <koushiki@adm.iitkgp.ac.in>

**Cc:** "Anandaroop Bhattacharya" <anandaroop@mech.iitkgp.ac.in>, "rituani07" <rituani07@gmail.com>, "IIT KGP BRANDING CELL" <iitkgp.branding@adm.iitkgp.ac.in>

**Sent:** Thursday, February 3, 2022 2:20:53 PM

**Subject:** Re: MoU with GRSE

Any progress, Ma'am on the subject matter ?

Thanks.

Regards.

-Surjya K Pal

=====

Signature file

=====

Surjya K Pal

Lord Kumar Bhattacharyya Chair Professor in Manufacturing  
 Professor, Department of Mechanical Engineering  
 Chairperson, Centre of Excellence in Adv Manuf Tech ( <http://www.coeamt.com> )  
 Professor-in-Charge, Metrology Lab & FSW Lab ( <http://www.fswlab.in> )

INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR

721 302, WB, INDIA

Ph: +91-3222-281576, +91-9434701972

=====

Web Address: <http://www.fswlab.in/skpal>

=====

On 28 Jan 2022, at 11:57 am, Koushiki Mukherjee <koushiki@adm.iitkgp.ac.in> wrote:

Dear AB Da,

Hope you are well.

We are hoping to place the Garden Reach Shipbuilders & Engineers Ltd MoU for Director's approval.

Could you kindly confirm if the draft in the link below is final with the suggested modifications from the MoU committee meeting dtd 21st Dec, 2021?

<https://drive.google.com/drive/folders/1nkhaufsiW6PHC7CrELU0SwuIDsonOIGK?usp=sharing>

If this is not, could you please share the latest version?

I am sharing the resolution from the meeting for your reference:

"The committee recommended that instead of signing an amendment to the existing MoU, the scope of the MoU be expanded to include the suggested modifications and the document be renewed for a duration of 5 years.

Once the new MoU is signed, the existing version will be rendered null and void.

It was suggested that Dean SRIC be the signatory of the new MoU."

Thank You AB Da!

Best Wishes,

Koushiki Mukherjee (*She/Her*)

International Relations Executive

IIT Kharagpur.

Office: +91 3222-281064

---

**From:** "SURJYA KANTA PAL" <surjya.pal@icloud.com>

**To:** "Koushiki Mukherjee" <koushiki@adm.iitkgp.ac.in>

**Sent:** Thursday, January 27, 2022 4:24:44 PM

**Subject:** Fwd: MoU with GRSE

Please let me know the way forward for the revised/new MoU with GRSE, which was discussed already in the last MoU committee meeting.

Thanks.

Regards.

-Surjya K Pal

=====

Signature file

=====

Surjya K Pal

Lord Kumar Bhattacharyya Chair Professor in Manufacturing  
Professor, Department of Mechanical Engineering  
Chairperson, Centre of Excellence in Adv Manuf Tech ( <http://www.coeamt.com> )

Professor-in-Charge, Metrology Lab & FSW Lab ( <http://www.fswlab.in> )

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721 302, WB, INDIA

Ph: +91-3222-281576, +91-9434701972

=====

Web Address: <http://www.fswlab.in/skpal>

=====

Begin forwarded message:

**From:** Prof Surjya K Pal <surjya.pal@icloud.com>  
**Subject: MoU with GRSE**  
**Date:** 17 Dec 2021 at 8:48 am  
**To:** Anandaroop Bhattacharya <anandaroopb@gmail.com>, Anandaroop Bhattacharya <anandaroop@mech.iitkgp.ac.in>  
**Cc:** Koushiki Mukherjee <koushiki@adm.iitkgp.ac.in>

Dear Prof Bhattacharya

GRSE, a Ministry of Defence unit, is willing to amend the scope of the already existing MoU by including the Industry 4.0 solutions. The details are mentioned in the attached revised draft document.

They are very much interested to get it signed in the upcoming Defexpo 2022 (10-13 March), which would be held at Gujarat.

It would be good if this gets discussed on 21st Dec meeting.

There is a small request: I do have another meeting on my patent approval on the same day at 5:30 pm where I need to present. Thus, if the GRSE matter gets discussed at the beginning, that would be great.

Thanks.

Regards.

-Surjya K Pal

=====

Signature file

=====

Surjya K Pal

Lord Kumar Bhattacharyya Chair Professor in Manufacturing Professor, Department of Mechanical Engineering

Chairperson, Centre of Excellence in Adv Manuf Tech ( <http://www.coeamt.com> )

Associate Dean, Alumni Affairs & Branding

Professor-in-Charge, Metrology Lab & FSW Lab ( <http://www.fswlab.in> )

INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR  
721 302, WB, INDIA

Ph: +91-3222-281576, +91-9434701972

=====

Web Address: <http://www.fswlab.in/skpal>

=====

Begin forwarded message:

**From:** Prof Surjya K Pal <surjya.pal@icloud.com>  
**Subject: Fwd: IIT KGP MOU**

**Date:** 15 Nov 2021 at 10:43 am  
**To:** Prof Suman Chakraborty ME Dept  
<suman@mech.iitkgp.ernet.in>, Anandaroop  
Bhattacharya <anandaroop@mech.iitkgp.ac.in>

Dear Prof Chakraborty and Prof Bhattacharyya

Garden Reach Shipbuilders and Engineers (GRSE), a unit of Ministry of Defence is very much interested to sign a MoU with the Centre of Excellence in Advanced Manufacturing Technology. CoEAMT is presently executing a project on AI-enabled weld defect identification.

GRSE had previously signed a MoU with OE&NA (copy attached).

I am thus requesting you to let me know the way forward. They are very much interested to get this thing done asap.

Thanks.

Regards.

-Surjya K Pal

=====

Signature file

=====

Surjya K Pal

Lord Kumar Bhattacharyya Chair Professor in  
Manufacturing

Professor, Department of Mechanical Engineering  
Chairperson, Centre of Excellence in Adv Manuf Tech ( <http://www.coeamt.com> )

Associate Dean, Alumni Affairs & Branding  
Professor-in-Charge, Metrology Lab & FSW Lab ( <http://www.fswlab.in> )

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721 302, WB, INDIA

Ph: +91-3222-281576, +91-9434701972

=====

Web Address: <http://www.fswlab.in/skpal>

=====

Begin forwarded message:

**From:** Umesh Paswan  
<umesh.iitkharagpur@gmail.com>  
**Subject: Fwd: FW: IIT KGP MOU**  
**Date:** 11 Nov 2021 at 4:28 pm  
**To:** surjya.pal@icloud.com

Sir

Signed MoU is attached herewith for your reference.

GRSE is wish to sign broad-base MoU with Center of excellence IITKgp.

This is for your kind perusal please.

Regards

----- Forwarded message -----

**From:** [qa.vd&iep.gm](mailto:qa.vd&iep.gm), Cdr Bhaskar Sengupta <[Sengupta.Bhaskar@grse.co.in](mailto:Sengupta.Bhaskar@grse.co.in)>  
**Date:** Thu, 11 Nov 2021, 16:20  
**Subject:** FW: IIT KGP MOU  
**To:** [umesh.iitkharagpur@gmail.com](mailto:umesh.iitkharagpur@gmail.com)  
[umesh.iitkharagpur@gmail.com](mailto:umesh.iitkharagpur@gmail.com)

**From:** cdo.dgm, Saumya Sengupta  
**Sent:** 11 November 2021 16:09  
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**Subject:** IIT KGP MOU

सादर/ Regards

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