Kathmandu University
Dhulikhel, Kavre

Jade Consult Pvt. Ltd.
Thapathali, Kathmandu

Memorandum of Understanding (MoU)

Between

Department of Mechanical Engineering, Kathmandu University (KU)

And

Jade Consult Pvt. Ltd.

February, 2021

Jade Consult Pvt. Ltd. Kathmandu

This MoU between the Department of Mechanical Engineering (DoME) of Kathmandu University (KU) and Jade Consult Pvt. Ltd., defines the cooperating areas and conditions for cooperation, primarily for **grant to promote and support research activities at the newly established Green Hydrogen Lab under DOME, KU.**

This MoU is effective when signed by both sides on page no 4, from the date of signing indicated on the front page, and will continue to be effective until Jade Consult completes its grant commitment unless earlier terminated.

Background:

Nepal has a huge potential of generating excess electricity from hydropower within the next few years. The excess electricity will be spilled unless we plan from today. Hydrogen is the promising solution to store energy and will be therefore the prominent link in the energy transition. As the rest of the world is making a transition towards the hydrogen-based economy, a developing country like Nepal which has huge hydroelectricity potential cannot alone remain behind. Hydrogen technologies are scaling up quickly, from megawatt (MW) - to gigawatt (GW)-scale, as technology continues to evolve. The Electrolyser costs are projected to halve by 2040 to 2050, from USD 840 per kilowatt (kW) today, while renewable electricity costs will continue to fall as well. Renewable hydrogen will could become the cheapest clean hydrogen supply option for many greenfield applications and eventually come to Nepal sooner than later.

At present Nepal does not have a foundation for hydrogen technologies at any level. This develops a need to initiate scientific exploration and research at Nepalese academic institutions to develop knowledge and resources in the field of green hydrogen energy. Green Hydrogen Lab (GHLab) (http://ghlab.ku.edu.np/) has been established under the Department of Mechanical Engineering with the vision of, "Nepalese industries specialized to produce, store, transport, and use green hydrogen energy at a commercial level". The lab has been prioritized as the new field of research and innovation unit under the strategic plan of the School of Engineering, KU 2020-30.

There is a need for external support and grants from the agencies like Jade Consult to support the lab and its vision.

With this purpose behind, this MoU is signed between DoME, KU, and Jade Consult, defining the cooperating areas and conditions for cooperation, for **"Support to set up a demonstrative facility for commercial application of green hydrogen technologies in Nepal"** and hereby adopt the following Memorandum of Understanding:

ARTICLE I

The implementation of cooperation based on this Memorandum shall be dealt with between the relevant personnel of both parties. Areas of cooperation between the parties will be focused but not limited to Mechanical Engineering aspects of alternative energy including hydropower and green hydrogen.

ARTICLE II

Jade Consult will support the development of infrastructure and facilities in the Green Hydrogen lab to the worth of Ten lakh Nepali Rupees (NRs 10,00,000/-). Relevant equipment as suggested from Green Hydrogen Lab will be procured by Jade Consult. The property after then will be hand over to the Department of Mechanical Engineering, Kathmandu University. The facility and equipment produced under this cooperation will be used for academic and research activities at

Jade Consult Pvt. Ltd. Kathmandu

the Green Hydrogen Lab. The purchasing activities need to be completed within the fiscal year of 2078/79 BS.

ARTICLE III

A specific plan with delivery, milestones, team members, and financial clauses shall be worked out for relevant activities other than specified in Article II setting forth the arrangements for the collaboration.
Both parties shall give preference to each other for undertaking the activities within their mutual interest and capacity.
Rules and regulations for procurement and financial transactions at each party will apply to the respective party. Any conflicts will be settled through mutual discussions.

ARTICLE IV

The Memorandum shall remain in force for a period of 2 years commencing from the date of signing. Necessary reviews and amendments to the Memorandum may be made by mutual consent within 1 month of written notice to the other party.

Both the KU and Jade Consult reserve the right to terminate this Memorandum by either party giving 3 months written notice to the other.

APPENDIX-I TO MoU BETWEEN DoME, KU, AND Jade Consult
Contact Details

A. Contact Details of DoME, KU			
Institutional Head	Dr. Daniel Tuladhar	**Contact Point**	Dr. Biraj Singh Thapa
Designation:	Associate Professor and Head, Department of Mechanical Engineering	Designation:	Team Leader, Green Hydrogen Lab and Asst. Professor, Dept. of Mechanical Engineering
Email:	daniel@ku.edu.np	Email:	bst@ku.edu.np
Phone:	+977 9843088777	Phone:	+977 9861936212
B. Contact Details of Jade Consult Pvt. Ltd.			
Jade Representative	Binod Ghimire		
Designation:	General Manager		
Email:	binod.ghimire@jadeconsult.com.np		

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APPENDIX-II TO MoU BETWEEN DoME, KU, AND Jade Consult

Proposed Cost Plan for the grant amount specified in Article II

S.N.	Heading	Cost
1	Infrastructure and Facilities	1,000,000
	Total	1,000,000
		In words: Ten Lakh Nepalese Rupees

Dr. Daniel Tuladhar
Associate Professor and Head
Department of Mechanical Engineering
School of Engineering, KU

Date: 25 Feb 2021

Binod Ghimire
General Manager
Jade Consult Pvt. Ltd.

Date: 25 Feb 2021