MEMORANDUM OF UNDERSTANDING

BETWEEN

UNIVERSITY OF RWANDA (UR)

AFRICA CENTER OF EXCELLENCE IN ENERGY FOR SUSTAINABLE DEVELOPMENT (ACE-ESD)

AND

RURAL ENERGY PROMOTION (REPRO Ltd) - RWANDA

This Memorandum of Understanding (MoU) made and entered into on this 20 day of December 2019 between University of Rwanda (UR)/Africa Center of Excellence in Energy for Sustainable Development (ACE-ESD) hereinafter referred to as "UR/ ACE-ESD* with its head office in Kigali, Kicukiro district, Rwanda, www.ur.ac.rw, P.O.BOX 4285 Kigali, represented by Professor Philip Cotton, the Vice-Chancellor, on one part and REPRO Ltd PO. Box 6165 Kigali, represented by Mr. Gregory TAYI, the Managing Director.

1. OBJECTIVES OF THE MOU

The objective of this Memorandum of Understanding is:

- To promote interaction between UR/ ACE-ESD and REPRO Ltd in mutually beneficial areas.
- To provide a formal basis for initiating interaction between UR/ACE-ESD and REPRO Ltd.

2. PROPOSED MODES OF COLLABORATION

UR/ACE-ESD and REPRO Ltd propose to collaborate through

 Sponsoring student projects / fellowships in two year Master course and five year PhD program at UR/ ACE-ESD.

- b) Sponsoring eligible employees of REPRO Ltd for doing Masters/Ph.D. degrees in UR/ACE-ESD. The eligibility criteria for selection will be as per norms of UR/ACE-ESD.
- c) Sponsoring R&D projects, which may be carried out wholly at UR/ACE-ESD or at premises of REPRO Ltd or partly at UR/ACE-ESD and partly at REPRO Ltd Hydro power projects.
- d) Training of REPRO Ltd personnel through Continuing Education Programs conducted by UR/ACE-ESD in areas of interest to REPRO Ltd.
- e) Support Masters Students for internship.
- f) Support training under the ACE-ESD Incubation Center.
- g) Any other appropriate mode of interaction agreed upon between UR/ACE-ESD and REPRO Ltd.

Each of the above modes of interaction will be initiated by entering into a separate agreement between the two parties.

3. FORMS OF RESEARCH AND DEVELOPMENT PROGRAMS

The form of any of the said Research and Development Program will be subject to a separate Research Agreement entered into by the Parties but may also include the following:

- a. In their own existing facilities The performance of research individually by each Party or concurrently by both Parties in mixed groups at their own facilities with regular exchanges of results.
- b. In a separate research and development facility The performance of research by the technical personnel of both Parties working together in the facilities of one Party or in mixed groups at the facilities supported/ sponsored by either Party.
- c. **Third parties** The performance of research by the Parties together with one or more third parties.

4. TECHNICAL AREAS OF COLLABORATION

- a. Energy generation.
- b. Storage devices.
- c. Devices under testing (DUT) research and capacity building to advance the objectives of Vision 2050 and the World Bank sponsored Africa Center of Excellence in Energy for Sustainable Development (ACEESD).
- d. Micro grids in islanded mode and connected to the utility grid.
- e. Control strategy of micro grids with different micro sources namely (Photovoltaic arrays, battery).
- f. Design and implementation of smart grids.
- g. Design, Implementation and sustainability Micro-hydro Power.
- h. Design and implementation of Nano grids.
- i. Energy management and loads control strategies.

5. AGREEMENTS FOR RESEARCH COLLABORATION

Each research collaboration undertaken by the parties hereunder shall be initiated by the signing of a separate research agreement between the parties, which will describe in detail:

- d) The nature, scope and schedule of the research collaboration.
- e) The form of the research collaboration.
- f) The estimated cost of the research collaboration together with the amount of funding, if any, to be received from third parties.
- g) The treatment of intellectual property and data rights, including patents, industrial design registration, copyrights and all other proprietary information (including innovations not patented, designs not registered etc.) which result from the research collaboration or which belong to a party and are used in research collaboration.
- h) Testing of equipment (Battery testing, converters, solar charge controller testing).
- i) Implementation of micro grids in islanded mode and connected to the utility grid.
- j) Control strategy of micro grids with different micro sources namely (Photovoltaic arrays, battery etc.).
- k) Design and implementation of smart grids.
- 1) Design, Implementation and sustainability Micro-hydro Power.

- m) Energy management and load shedding strategies.
- n) Industrial attachments and internships to students for skills transfer and sustainable development.
- o) Enabling research development and dissemination of findings on indigenous energy sources, consultancy and advisory services both public and private organizations.
- p) Access to energy infrastructure for research promotion and exposure to latest technologies.
- q) Technology and skills transfer for sustainable energy development and management.
- r) Strengthening the cooperation between industry and academia in the training local workforce in renewable energy.
- s) other provisions as may be mutually agreed upon, including provisions covering the consequences of default or termination by a participant, term, arbitration of disputes and applicable law.

6. CONFIDENTIALITY

- a. During and for a period of 5 years from the date of disclosure, each party agrees to consider as confidential all information disclosed by the other party in written or tangible form or, if orally disclosed confirmed in writing within thirty days of disclosure and identified as confidential by the disclosing party.
- b. The obligations above shall not extend to any confidential information for which the receiving party can prove that this information:
 - is in the public domain at the time of disclosure or comes within the public domain without fault of the receiving party.
 - is already known or become known to the receiving party
 - is received from a third party having no obligations of confidentiality to the disclosing party,
 - is independently developed by the receiving party; or
 - is required to be disclosed by law or court order.

7. NON-EXCLUSIVITY

The relationship of the parties under this MOU shall be none exclusive and both parties, including their affiliates, subsidiaries and divisions, are free to pursue other agreements or collaborations of any kind. However, when entering into a particular research agreement, the participants may agree to limit each party's right to collaborate with others on that subject.

8. TERMS AND TERMINATION

This MOU, unless extended by mutual written agreement of the parties, shall expire 5 years after the effective date specified in the opening paragraph. This MOU may be amended or terminated earlier by mutual written agreement of the parties at any time. Either party shall have the right to unilaterally terminate this MOU upon 60 days prior written notice to the other party. However, no such early termination of this MOU, whether mutual or unilateral, shall affect the obligations of the participants under any Research Agreement, Confidentiality clause as referenced in clause 6 above, or any other agreement entered into pursuant to this MOU, which obligations shall survive any such termination.

9. RELATIONSHIP

Nothing in this MOU shall be construed to make either party a partner, an agent or legal representative of the other for any purpose.

10. ASSIGNMENT

It is understood by the Parties herein this MOU is based on the professional competence and expertise of each party and hence neither Party shall transfer or assign this Agreement, or rights or obligations arising hereunder, either wholly or in part, to any third party.

11. COSTS OF THE MOU

Each Party shall bear the respective costs of carrying out the obligations under this MOU.

12. SIGNED IN DUPLICATE

This MOU is executed in duplicate with each copy being an official version of the Agreement and having equal legal validity.

BY SIGNING BELOW, the parties, acting by their duly authorized officers, have caused this Memorandum of Understanding to be executed, effective as of the day and year first above written.

On behalf of

UNIVERSITY OF RWANDA

Ву

Witness

Name: Prof. Philip Cotton

Title: Vice Chancellor

Date: 04/03/2020

1. Prof. Etienne Magwirumugara.

on behalf of

REPRO

By

Name: Andrew Mbangukira

S.A.R.L

Title: Project Manager

Date: do December 2019

Witness:

1. Philbert DUSENGE

LETTER OF AGREEMENT

Between

Rural Energy Promotion (REPRO) Ltd

Based at

NYARUTARAMA-REMERA sector,

PO. Box 6165, Kigali/ Rwanda.

And

Africa Centre of Excellence in Energy for Sustainable Development (ACE-ESD)

Based at, Gikondo Campus KK 737 Street, Kigali, RW WHEREAS, REPRO is a company that helps the developing world to climb the Energy Ladder by providing access to electricity through hydro power projects;

And:

WHEREAS ACE-ESD is the Centre of excellence established within University of Rwanda devoted to address the critical challenge capacity building in the field of energy. The implementation of the ACE-ESD is expected to result in building capacity of the East and Southern African region through the University of Rwanda, College of Science and Technology to undertake interdisciplinary research and training in smart and micro-grid energy technologies tailored to serve remote and/or rural areas using renewable sources, power systems and energy management and trade policy, and improve research and teaching environment. Hereinafter referred to as "the Parties" and each of them being "a Party".

BACKGROUND

With reference to the Memorandum of Understanding (MoU) between the parties that was signed on the 20th of December 2019 the Parties hereby confirm their intention to regulate their activities with the stipulated work plan and budgets in accordance with the terms and conditions contained in this agreement (the "Agreement").

STATEMENT OF AGREEMENT

1. The parties shall organize and facilitate exchange programmes for faculty staff and students on teaching, scientific research and laboratory attachment. Selection of staff and students for exchange shall be done on mutual agreement between parties on the needs and areas for exchange. The number of staff and students from parties and time for exchange shall be decided upon agreement between parties. Each party shall provide convenience environment for exchange staff and students to facilitate research, learning and be responsible for providing the necessary working place and equipment, library and other basic teaching and research resources as well as guarantee their basic accommodation.

TERMS AND CONDITIONS OF AGREEMENT

It is hereby agreed as follows:

1. THE BUDGET

The total budget fixed for fulfilling the agreed objectives under this agreement is **48,000 USD** only. The expenditure and disbursement shall be done in accordance with terms and conditions prescribed in this agreement. Any amendments to the budget shall be subject to written agreement between the Parties.

2. GOVERNANCE, ROLES AND RESPONSIBILITIES

By virtue of the inter-institutional nature of this agreement, the parties' senior management teams shall commit themselves to the principles and approaches embodied in this Agreement, as well as its requirements and implications, to enable well-informed and supportive decision-making that facilitates its implementation. For purposes of expediting the effective coordination and implementation of the activities covered by this Agreement, the parties shall nominate authorized representatives.

The parties shall convene regular meetings on agreed frequency and the relevant documentation shall be circulated in advance of the meeting. Meetings will normally take place using ICT, to be cost-efficient, except when a physical meeting is necessary.

The parties shall also agree on the financial management matters, include who should manage the funds on behalf of parties in accordance with the agreed implementation Budget. There shall also be joint oversight of the implementation of agreed Annual Action Plan, Milestones and deliverables to be achieved. Parties shall prepare the Monitoring and Evaluation plan and agree on indicators that will help to track and measure performance of the project.

During implementation both parties shall compile the annual implementation report with input from all parties, including reporting against agreed indicators, activity reporting, financial and qualitative reporting. The annual reports must be endorsed and signed off by all parties and the final version published.

Each year the parties shall review the operation of this Partnership Agreement and revise the specific collaborative activities and commitments for the upcoming year in line with the outcomes of the review.

3. CONFIDENTIALITY

All information of a confidential nature pertaining to the Agreement and results arising from the Agreement is confidential to the Parties except where disclosure is required under and in terms of the Main Contract. The Parties undertake to hold such information in confidence and not to publish or disclose it in any way other than to persons in their employment who shall likewise be bound by these obligations of confidentiality without the consent of the Party owning or controlling such confidential information.

4. INTELLECTUAL PROPERTY

Intellectual property shall mean intellectual property of any description including but not limited to all inventions, designs, information, specifications, formulae, improvements, discoveries, know-how, data, processes, methods, techniques and the intellectual property rights therein, including but not limited to, patents,

copyrights, database rights, design rights (registered and unregistered), trademarks, trade names and service marks, applications for any of the above ("Intellectual Property").

5. AGREEMENT DURATION

The Agreement shall become effective upon signature by the Authorized officials and will remain in effect for three (3) years, unless modified with the approval of the agreement of the Parties.

6. DISPUTES

The partners will make every reasonable effort to resolve all issues fairly by negotiation. In the event that the dispute cannot be resolved within a four-week period the matter shall be referred to the leaders of the partner organizations involved, for resolution. Any dispute which cannot be settled amicably shall be finally settled by third party mediation. Each partner shall bear its own costs connected to such a mediation procedure.

7. FORCE MAJEURE

If either party hereto is prevented in the performance of any act required hereunder by reason of act of God, fire, flood, or other natural disaster, malicious injury, strikes, lock-outs, or other labour troubles, riots, insurrection, war or other reason of like nature not the fault of the party in performing under this Agreement, then performance of such act shall be excused for the period of the delay and the period of the performance of any such act.

8. TERMINATION

The Agreement may be terminated by either party upon three months written notice, then to the Regional Facilitation Unit and the Association of African Universities.

9. SIGNATURES

In witness whereof, the parties to this Agreement through their duly authorized representatives have executed this Agreement on the days and dates set out below, and certify that they have read, understood, and agreed to the terms and conditions of this Agreement as set forth herein.

Rural Energy Pi Rwanda	romotion REPRO Ltd, Kigali,	University of Rwand	a, Kigali, Rwanda
Legal representative	MBAHGUKIRA Andrew	Legal representative	PHILIP COTTON
Designation	Project Mounter Project	Designation	YICE CHANCELLOR
Signature	EPRO 2	Signature	Much Coston
Date	30/10/10/11	Date	04/03/2020
WITNESSED BY	1932 B.P. 6162	WITNESSED BY	
Name	DUSTINGE Milbet Project Engineer	Name: Prof. El cure	NTHOURMONEA
Designation	Project Engineer	Designation	MEE-ES D
Signature	turs,	Signature	Rune
Date	20 2119	Date S	4/03/2020
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APPENDICES

Cost estimation for our students during practical visit and other activities needs facilitation to the site which is provided by the center (ACE-ESD) Cost in USD (\$) for one person in each activity per year.

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Total	Total	Sub-	Incubation centre cost	activity in ACE-ESD	Training & Support	Collsuillable	Consumable	Research cost	(staff exchange)	Industry attachments	(Students exchange)	ACE-ESD	Short Training under	Student internships &	Activity		
	tal	<u></u>	st	_						0 2				*	A	-	
16,000		16,000			5,000			1000		5,000				5,000	ACE-ESD		2020
16,000		16,000			5,000			1000		5,000			10	5,000	ACE-ESD	ACE ECD	2021
16,000		16,000			5,000			p1000		5,000				5,000	ACE-ESD	ACE ESD	2022
48,000		48,000			15,000			3000		15,000				15,000	15 000		Total

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				2019				2020				2021	
Activity	Sub-Activities	01	02	63	64	10	07	63	04	Q1	Q1 Q2	63	40
S/N 1-4 (Previous table)	Establishing criterions for												
	students/staff selections												
	Identification of students/staff for												
	internship and attachments												
	Students/staff internship and												
	attachments												
	Joint students/staff supervision/project											r se	
	Joint Evaluation of students/staff												
	performance during the entire												
	internship/attachment												