Indonesia–NTU Singapore Institute of Research for Sustainability and Innovation (INSPIRASI)

- MOA signed on 14 Dec 2022
- Funded by LPDP (Indonesia Endowment Fund for Education), USD 60 mil over 5 years
- Founding University Partners:
  - Universitas Gadjah Mada (UGM), Universitas Indonesia (UI), Institut Teknologi Bandung (ITB), and Institut Teknologi Sepuluh Nopember (ITS)

INSPIRASI

Phase 1 : 5-Year Plan

- 3 pillars: Renewable Energy, Circular Economy, Smart Cities
- Flagship projects: Renewable Energy Living Lab, EcoCampus

Visiting Professors, Educators	Undergraduates, Postgraduates	Resident Researchers, Administrative Staff

Research	Education	Enterprise	Community

Founding Partners:

NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

UNIVERSITAS INDONESIA

INSTITUT TEKNOLOGI BANDUNG 1920

UNIVERSITAS GADJAH MADA

ITS Institut Teknologi Sepuluh Nopember

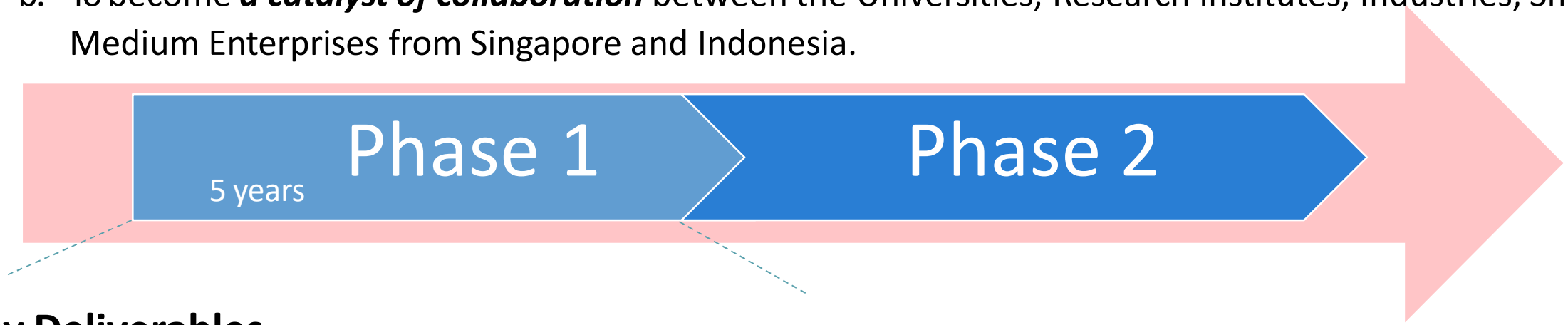
Mission:

To **share** key learnings from Singapore's IHLs in nurturing next generation sustainability talent and **co-create** knowledge with Indonesia to address emerging sustainability challenges in the region

Vision and Key Deliverables

The Vision of this partnership are :

a. To become ***a hub of world-class Research and Education*** in Indonesia.
b. To become ***a catalyst of collaboration*** between the Universities, Research Institutes, Industries, Small and Medium Enterprises from Singapore and Indonesia.

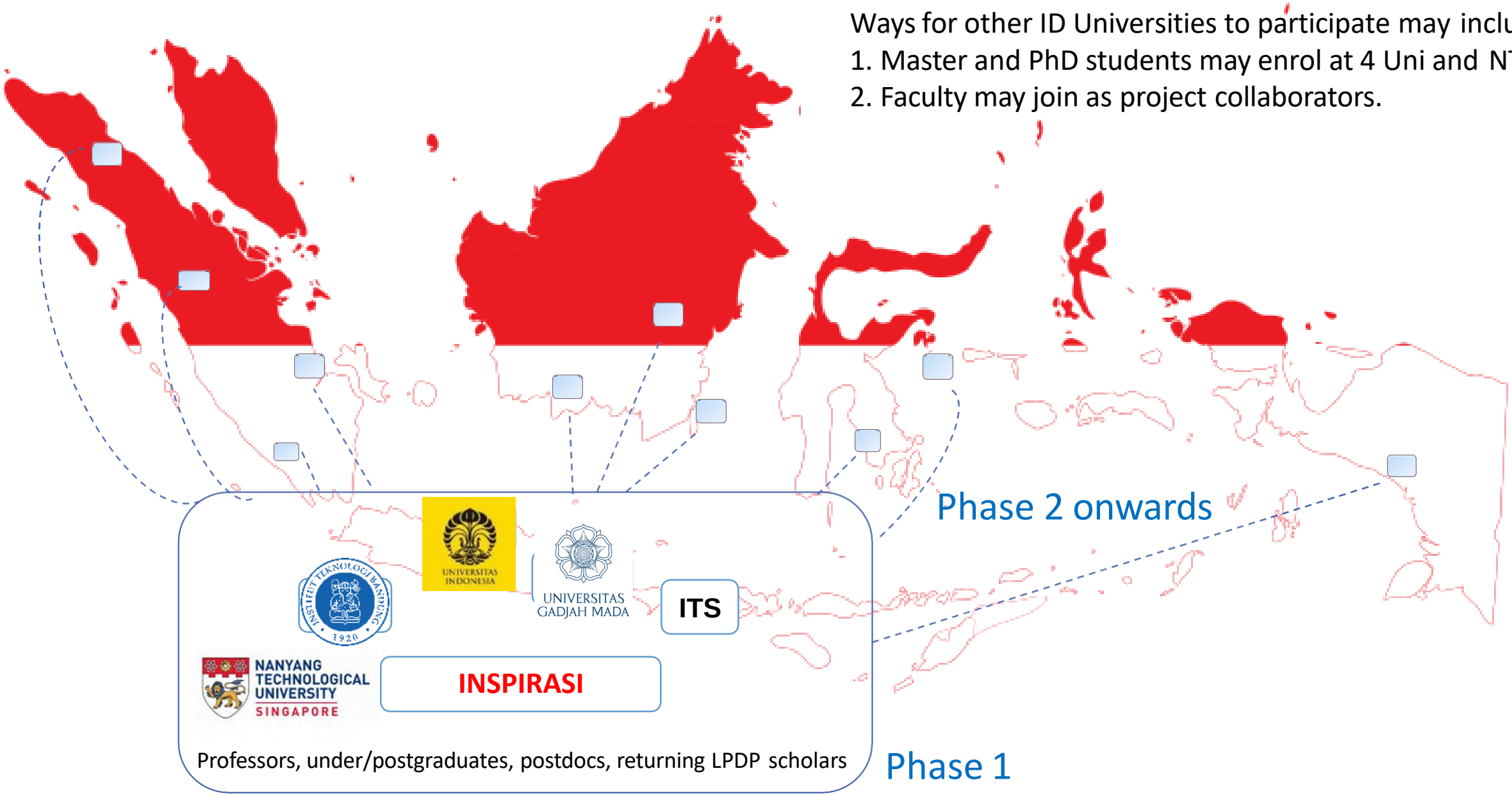


Key Deliverables

a) Flagship programs: REIDI and EcoCampus
b) Joint Research Programs in the area of : Clean Energy Generation and Storage, Circular Economy and Smart Cities.
c) Joint publications
d) Jointly-supervised Master and PhD students
e) Jointly organise seminars, conferences, training, workshops, symposium, and courses; and
f) Jointly organise educational activities including but not limited to exchange, internships and training for students, professors, and researchers.

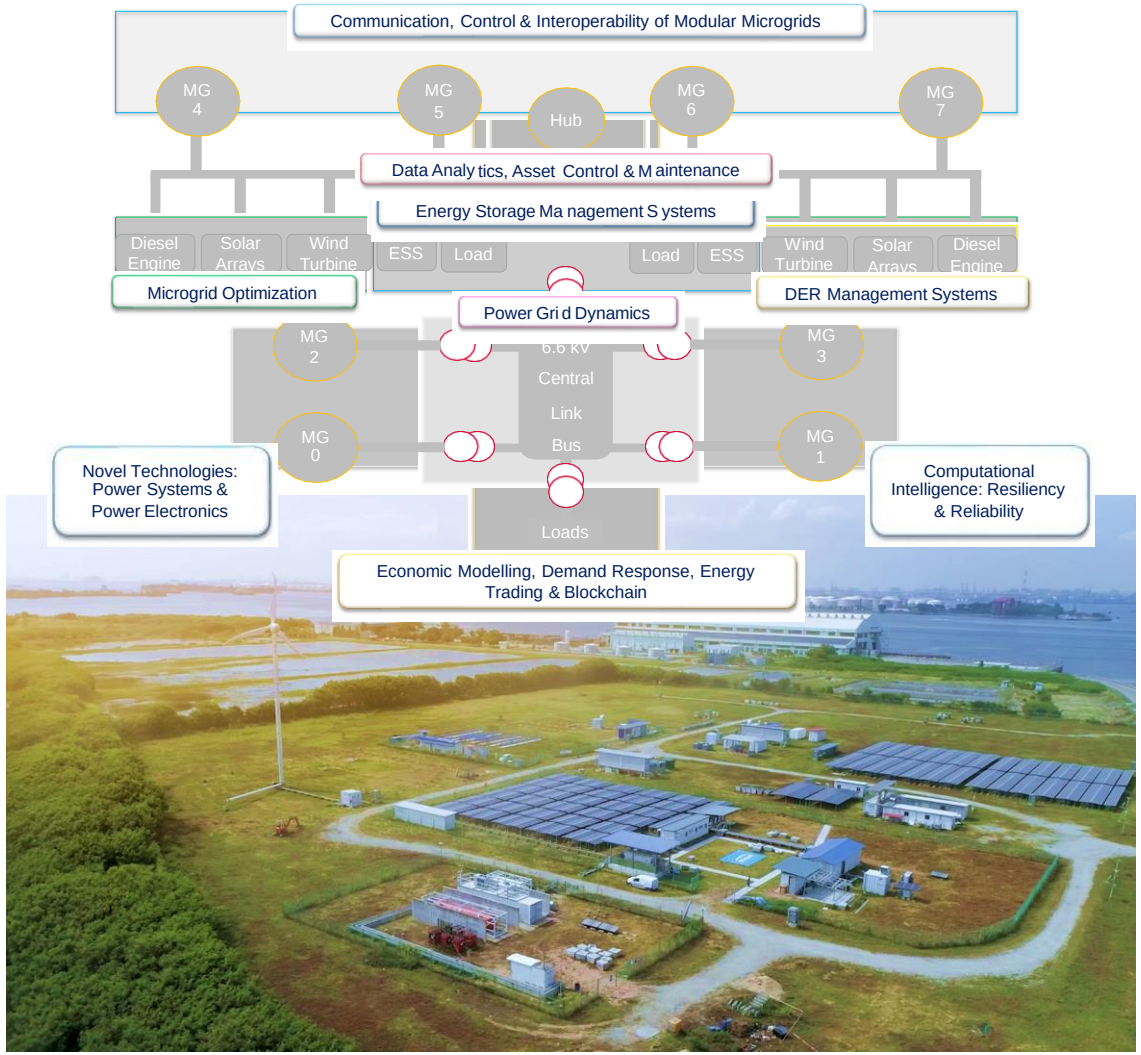
Ways for other ID Universities to participate may include:

1. Master and PhD students may enrol at 4 Uni and NTU.
2. Faculty may join as project collaborators.



Flagship Program:
REIDI (Renewable Energy Integration Demonstrator – Indonesia)

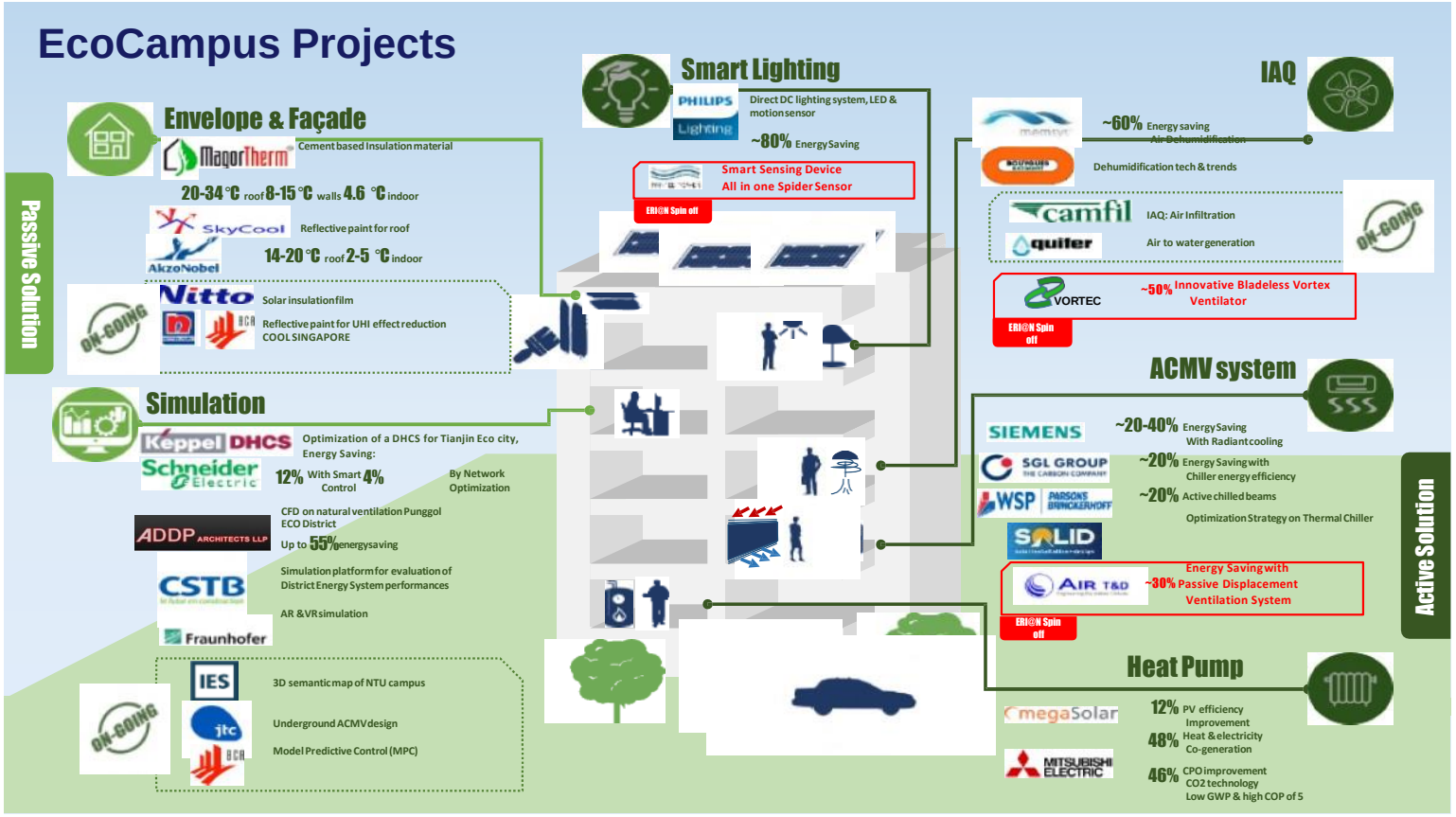
- Lead:
  - Prasanna I V (NTU)
- Proposed Goal:
  - 1MW Microgrid modelled after REIDS
  - Adopted to Indonesian conditions
    - Based on local resource quality (e.g. solar intensity)
    - Considering Indonesia specific energy sources
      - Hydrothermal study
      - Low carbon biomass study
    - Adopted types of energy storage
  - Basic microgrid available for testing by H2 2025 with continuous expansion beyond that date to facilitate R&D needs



Flagship Program: EcoCampus Indonesia

- Lead:
  - Prof Madhavi Srinivasan (NTU)

- Proposed Goal:
  - Indonesian EcoCampus spinoff with a goal of 20% energy reduction per m^2
  - To be deployed at suitable university campus of partner university
    - Multiple sites under consideration
  - Adopted to local conditions
  - First technologies deployed in H1 2025 with additional deployments till late 2027.



1 From our Q1 visit and FGD session in NTU Singapore, INSPIRASI team came up with 10 Research Topics and 45 Sub-Topics across 3 pillars

Research Pillars	Proposed Projects		
Renewable Energy	Project topics	Indonesian Lead PI University	# Research Sub-Topics
	1. Next Generation Solar Energy Harvesting Technology	UI	5
	2. Carbon Capture Utilization and Storage	UGM	4
	3. Fuel Cell and H2 technology	UGM	5
	4. Advanced Energy Storage Materials and Technology	ITB	4
Circular Economy	Project topics	Indonesian Lead PI University	# Research Sub-Topics
	1. Biomass Valorization	ITS	8
	2. Soil Rehabilitation And Resource Recovery	UGM	4
	3. E-waste Recycling	UI	3
Smart Cities	Project topics	Indonesian Lead PI University	# Research Sub-Topics
	1. Trusted Data Acquisition and Sharing Infrastructure for Responsible Smart City Initiatives	ITS	4
	2. Vertical Intelligent Applications in Smart City Ecosystem	UGM	4
	3. Governance and Sustainability for Smart City Platform and Ecosystem	ITB	4

Each Indonesia founding universities proposed their own flagship project for both REID-I and Eco Campus, but also subject to NTU due diligence result and decision from DGHERT