GenAI initiative for NRENs in the Asia Pacific region

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35 YEARS
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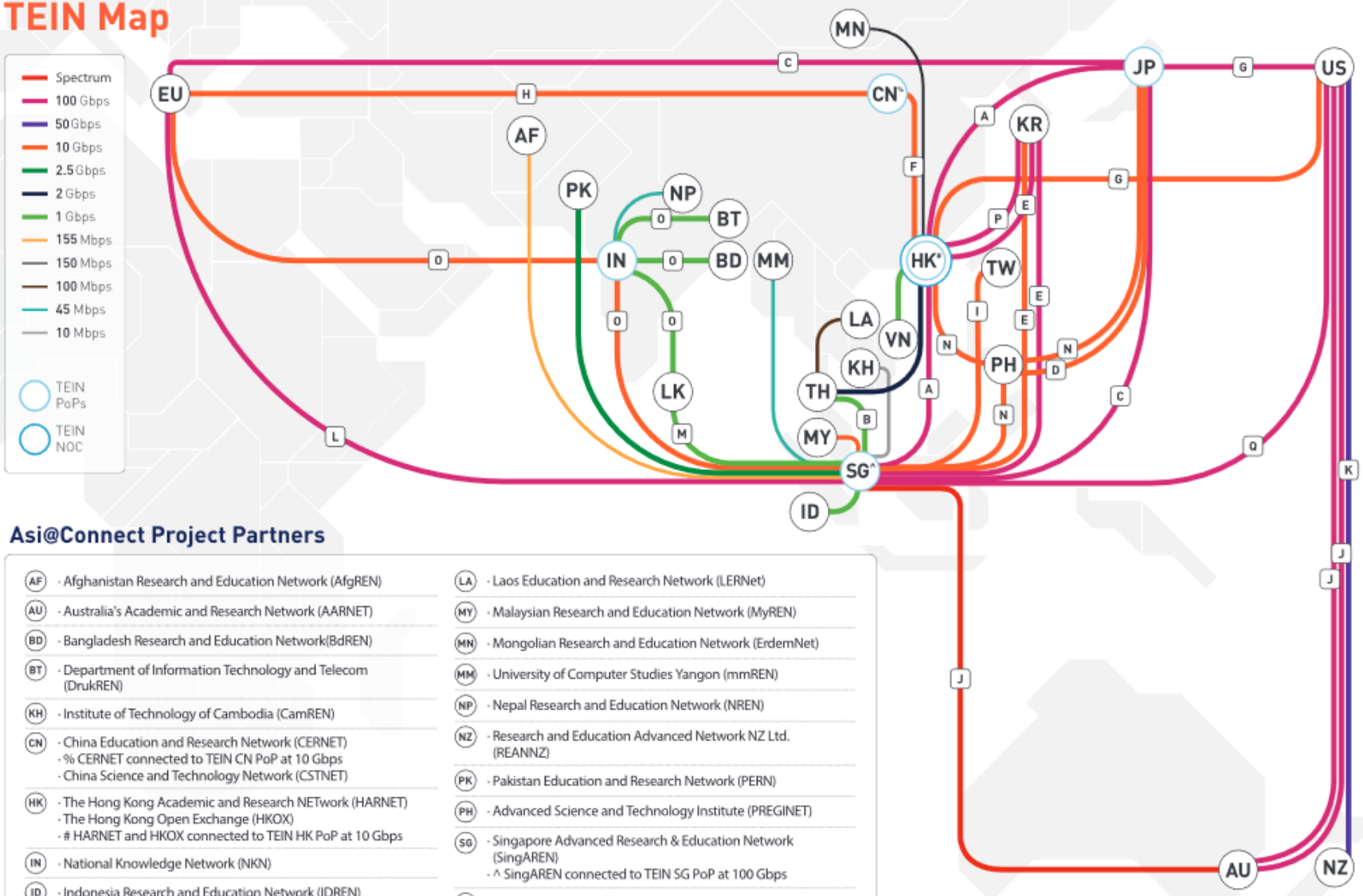
- **Lanka Education And Research Network** (LEARN), the **NREN** (**National Research and Education Network**) of Sri Lanka, was established in 1989.
- We are part of the **Asia Pacific NREN Consortium (APAN)** and **Asia Pacific NREN Network** (**TEIN/Asi@Connect**)

TEIN Map



Asi@Connect Project Partners

- (AF) · Afghanistan Research and Education Network (AfgREN)
- (AU) · Australia's Academic and Research Network (AARNET)
- (BD) · Bangladesh Research and Education Network(BdREN)
- (BT) · Department of Information Technology and Telecom (DrukREN)
- (KH) · Institute of Technology of Cambodia (CamREN)
- (CN) · China Education and Research Network (CERNET)
  · % CERNET connected to TEIN CN PoP at 10 Gbps
  · China Science and Technology Network (CSTNET)
- (HK) · The Hong Kong Academic and Research NETwork (HARNET)
  · The Hong Kong Open Exchange (HKOX)
  · # HARNET and HKOX connected to TEIN HK PoP at 10 Gbps
- (IN) · National Knowledge Network (NKN)
- (ID) · Indonesia Research and Education Network (IDREN)
- (JP) · Ministry of Agriculture, Forestry and Fisheries Research Network (MAFFIN)
  · National Institute of Information and Communications Technology (NICT)
  · National Institute of Informatics (NII)
- (KR) · National Information Society Agency (KOREN)
  · Korea Institute of Science and Technology Information (KREONET)
- (LA) · Laos Education and Research Network (LERNet)
- (MY) · Malaysian Research and Education Network (MyREN)
- (MN) · Mongolian Research and Education Network (ErdemNet)
- (MM) · University of Computer Studies Yangon (mmREN)
- (NP) · Nepal Research and Education Network (NREN)
- (NZ) · Research and Education Advanced Network NZ Ltd. (REANNZ)
- (PK) · Pakistan Education and Research Network (PERN)
- (PH) · Advanced Science and Technology Institute (PREGINET)
- (SG) · Singapore Advanced Research & Education Network (SingAREN)
  · ^ SingAREN connected to TEIN SG PoP at 100 Gbps
- (LK) · Lanka Education and Research Network (LEARN)
- (TW) · Academia Sinica Grid Computing (ASGC)
- (TH) · Thailand Research Education Network Association (ThaiREN)
- (VN) · National Agency for Science and Technology Information (VinaREN)

* As of December 2020.
** Other regions (Central Asia, Africa and Latin America) can be connected via global R&E networks such as EU(GÉANT) and US(Internet2)

Asi@Connect

The following links are fully financed/co-financed by the link owners whose support is gratefully acknowledged

- A — National Institute of Information and Communications Technology; National Supercomputing Centre; Singapore Advanced Research & Education Network
- B — National Institute of Information and Communications Technology; Thailand Research and Education Network
- C — National Institute of Informatics
- D — Ministry of Agriculture, Forestry and Fisheries Research Network
- E — National Information Society Agency
- F — China Education and Research Network; TEIN Cooperation Center
- G — TransPAC/Pacific Wave
- H — Co-funded by China and EU
- I — Academia Sinica Grid Computing
- J — Australia's Academic and Research Network
- K — Research and Education Advanced Network New Zealand
- L — GÉANT; NORDUnet; SingAREN; SUBMARINE NETWORKS; TEIN
- M — Lanka Education and Research Network
- N — Advanced Science and Technology Institute
- O — National Knowledge Network
- P — Korea Research Environment Open NETwork
- Q — National Supercomputing Centre; Internet2; Singapore Advanced Research & Education Network

Telemedicine · Earth Observation · Food Security · e-Science

e-learning · e-Culture · Advanced ICT Technology · Capacity Building Programs

56th Asia Pacific Advanced Network Meeting [APAN56] August 2023

- From 21st - 25th August 2023 in Colombo
- Total participants 390
  = 282 (Foreign) + 108 (Local)
- Total physical participants 199
  = 123 (Foreign) + 76 (Local)
- Conducted 80 sessions
- **Initiated APAN Conference on AI/HPC**

WG on HPC/AI

- We (LEARN) submitted a proposal to set up a "**BoF on HPC/AI**", which was accepted
- Initial meeting **@APAN57** in Bangkok, Thailand in February 2024
  - **Chair:** Dr. Asitha Bandaranayake (CTO/LEARN)
- Confirmed as a Working Group from **APAN59** onwards

GenAI initiative for NRENs in the Asia Pacific region

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Asia Pacific – Generative AI for NREN Empowerment and Development

- LEARN won an **APNIC ISIF Asia Impact Grant** for USD 150,000
  - In Collaboration with **BdREN** and **UNESCO Chair @ APU** in Malaysia
- A tailored capacity development program focused on empowering NREN staff across the Asia Pacific Region to use GenAI effectively in their work.
- Will prioritize the needs of Least Developed Countries (LDCs) and Lower-Middle Income Countries (LMICs) while offering a model applicable to NRENs globally.

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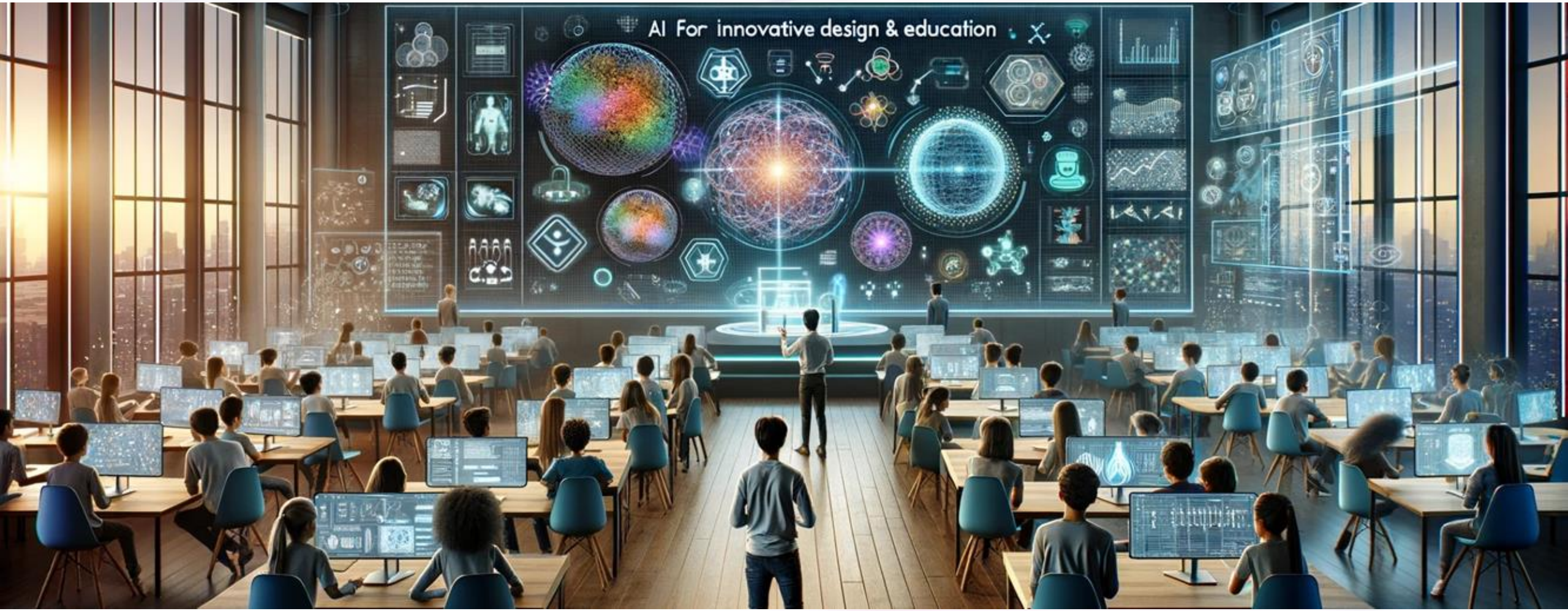
AI for Innovative Design & Education (AIDE)

Workshop & Conference



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ASIA PACIFIC UNIVERSITY
OF TECHNOLOGY & INNOVATION

March 11th – 15th, 2024, in Kandy, Sri Lanka

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Modules and Learning Outcomes: AI TEACH

The **AI TEACH** module aims to provide educators with practical tools for academic course design and holistic teaching methods at ***elementary*** and ***secondary level schools***.

Modules and Learning Outcomes: AI LD (Learning Design)

AI LD focuses on innovative learning designs incorporating Gen-AI to foster compelling and imaginative educational experiences in ***higher educational environments***.

Modules and Learning Outcomes: AI RE (Research)

AI RE is intended to assist educators and researchers in harnessing Gen-AI for research activities, enhancing the quality and efficiency of academic inquiry.

Modules and Learning Outcomes: AI AW (Academic Writing)

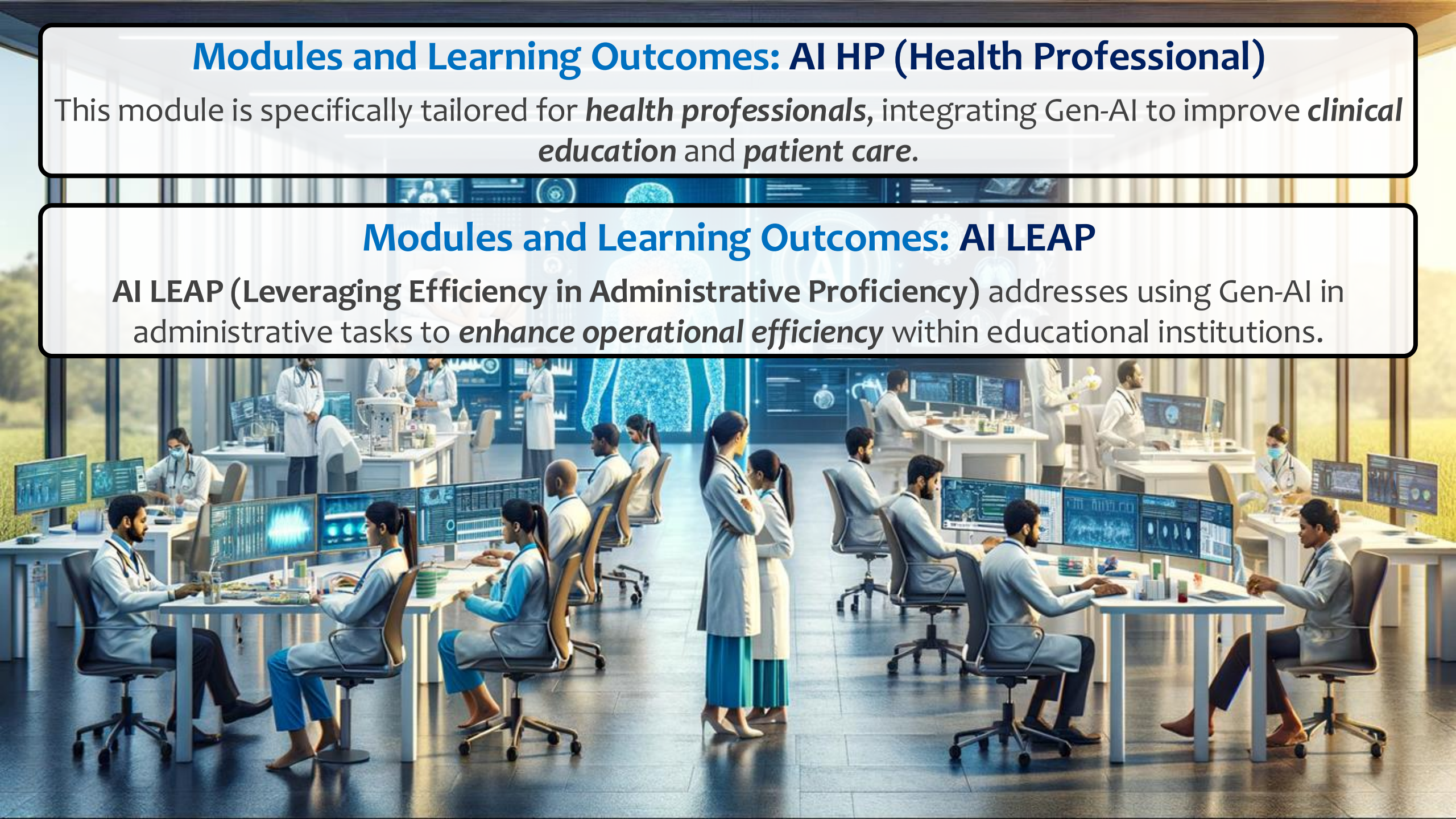
AI AW is dedicated to leveraging Gen-AI for academic writing, enabling educators to produce high-quality scholarly works more efficiently.

Modules and Learning Outcomes: AI HP (Health Professional)

This module is specifically tailored for ***health professionals***, integrating Gen-AI to improve ***clinical education*** and ***patient care***.

Modules and Learning Outcomes: AI LEAP

AI LEAP (Leveraging Efficiency in Administrative Proficiency) addresses using Gen-AI in administrative tasks to ***enhance operational efficiency*** within educational institutions.



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- **Objectives**
  - Addressing challenges in NRENs of LDCs and LMICs in the Asia-Pacific region in developing their capacity due to
    - limited funding,
    - difficulty in attracting qualified staff,
    - maximize the potential of their existing workforce and
    - lack the resources and expertise to integrate GenAI (& other latest innovations) into their operations effectively.
  - Address the Digital Divide, Gender Equality, & Social Inclusiveness

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- **Key Outcomes**

1. Tailored GenAI Curriculum and Training Material:

- modular curriculum
- foundational AI and GenAI knowledge
- *specialized modules* for technical and non-technical roles.

2. Improve NREN Staff AI Capacity:

- comprehensive GenAI capacity development program tailored to the unique needs of NRENs,
- prioritizing the challenges faced by those in LDCs and LMICs.

3. Practical Skills Development:

- Hands-on training and projects
- apply GenAI tools to core NREN functions, in both technical and non-technical areas

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- **Key Outcomes**

4. **Open Educational Resource (OER):**
   - Create a repository of NREN-specific *GenAI use cases*, *best practices*, and *resources*.
5. **Stronger NRENs:**
   - Empower NRENs, particularly in LDCs and LMICs, to use GenAI to automate tasks, gain data insights, and deliver innovative services.

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Key Activities

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- **Activity 0: Preparatory Workshop**
  - **Conducted at APAN58 in Islamabad as part of "BoF on HPC/AI"**
  - **Conducted three sessions**
    - **Session I:** Participant Survey [Needs Analysis]
    - **Session II:** Introduction to AI and GenAI
    - **Session III:** Prompt Engineering

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- **Activity 1: Curriculum Development Workshop**
  - **Conducted at APU in Kuala Lumpur, Malaysia in September 2024**
  - **Objectives:**
    - **Train the Trainers:** Established the initial core of trainers
    - **Tailored Curriculum:** Identify and address NREN-specific use cases

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- **Activity 2: Local Training Pilot Projects and Curriculum Revision**
  - **Conducted in Sri Lanka and Bangladesh in Jan and Feb 2025**

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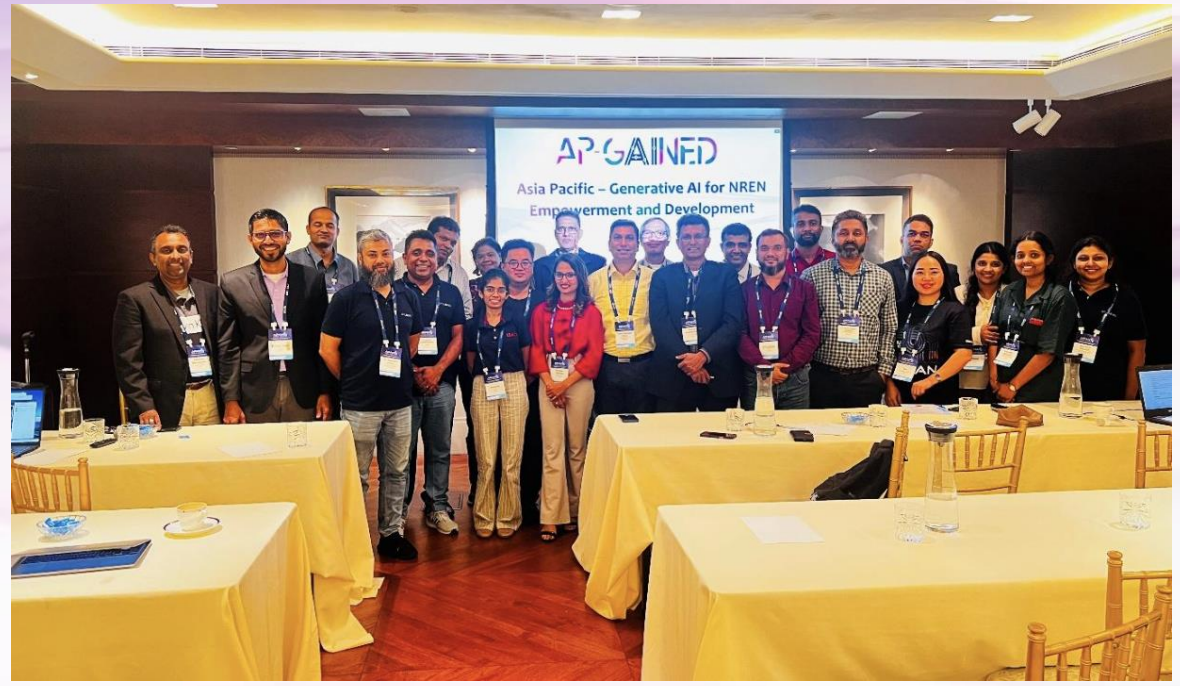
- **Activity 3: Two Regional Training Workshops**
  - **APAN59** in Yokohama in March 2025
  - **APAN60** in Hong Kong in July 2025



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- **Activity 3: More than two Regional Training Workshops**
- **APAN61** in Dhaka, Bangladesh in January 2026

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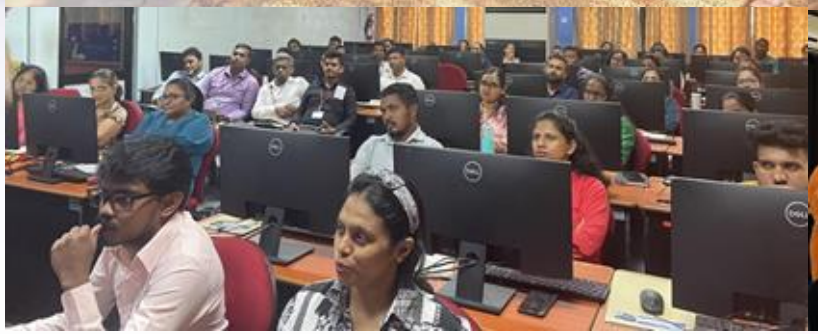
- # Activity 3a: Additional Local Workshops
  - UoP, UoK, SUSL [2], SLPI, etc.



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- **Activity 4: Open Educational Resources**
  - **Objectives:**
    - Sustainability
    - Collaboration Hub
    - Tailored Resources
    - Continuous Learning
    - Ever-evolving repository of Best Practices
  - **Portals & LMSes**
    - www.ap-gained.asia
    - www.aisrilanka.org

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- **Activity 5: Publications**
  - **Taking the results and success stories to a broader community beyond the Asia-Pacific region**
    - A book and 2 research publications are being finalized
    - Multiple news and community articles
    - Multiple presentations at local & regional meetings

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- **Pre-Activity 5: Dissemination**
  - Presentation at GÈANT SIG-AI in Poznan, Poland – Dec ‘24

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- **Numbers**
  - **17 in-person workshops:**
    - **Five** proposed (Sri Lanka Pilot, Bangladesh Pilot, APAN59, APAN60, and a Curriculum Development Workshop in Malaysia with UNESCO),
    - **Seven** additional expert-led national workshops (APAN61, SUSL (twice), UITUSL, LKNOG9, SLPI, UoP), and
    - **Five** run independently by Certified Trainers.
    - In total, **over 650 participants were trained,** with more than **80% from LDCs/LMICs.**

  - **Fellowships at APAN** were gender-balanced **(APAN59: 7F/7M; APAN60: 9F/6M).**
  - **The Certified Trainer Program (CTP)** expanded indirect reach as trainers replicated sessions within their institutions

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AP-GAINED+

- **The impact of AP-GAINED inspired others …**
  - The **Asi@Connect** Project called for proposals to conduct GenAI-based extended training programs for the rest of the Asia-Pacific Region
  - We (LEARN) won 1 (of the two) grants: **AP-GAINED+**
    - Training NREN and connected professionals in 10 countries

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Key Activities: AP-GAINED+

- Workshop in **Laos** targeting NREN staff from Laos, Cambodia, Mongolia, Nepal and Bhutan.

Key Activities: AP-GAINED+

- Workshop in **Thailand** targeting NREN staff from Thailand, the Philippines, Malaysia, Nepal, and Pakistan.

AP-GAINED AP-GAINED+

• Modular Curriculum: Hands-on Workshops

1. **Demystifying AI** – History, core concepts, and evolution from classical AI to GenAI
2. **Introduction to GenAI & Use Cases** – Overview of GenAI models, tools, and practical applications
3. **Prompt Engineering Masterclass** – RISEN framework, advanced techniques, and live demonstrations
4. **GenAI Tools in Practice** – Hands-on sessions with Microsoft Copilot, ChatGPT, and others
5. **Ethical & Responsible AI** – Risks, ethics, and responsible use of GenAI in R&E environments
6. **Job & Process Mapping** – Mapping roles and workflows to identify GenAI opportunities
7. **Reengineering Workflows for GenAI Integration** – Transforming repetitive and high-impact tasks using GenAI for effective, productive work
8. **Solution Design – Part 1** – Selecting high-ROI tasks and framing GenAI-based solutions
9. **Solution Design – Part 2** – Developing and refining AI-enhanced workflows
10. **Overcoming Challenges** – Addressing mindset shifts, resistance, and GenAI limitations
11. **Presenting GenAI Solutions** – Structuring, delivering, and showcasing practical outcomes
12. **Becoming a Trainer** – Facilitation skills, peer feedback, action planning, certification, and wrap-up

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• Modular Curriculum: LMS

Phase I — Foundations of Generative AI for NRENs

(Understanding the Technology and Its Responsible Use)

Module 1 — Demystifying Artificial Intelligence
Understanding AI history, core concepts, and evolution toward modern AI systems.

Module 2 — Introduction to Generative AI & Use Cases
Overview of GenAI models, tools, and practical applications in NREN environments.

Module 3 — Prompt Engineering Masterclass
Structured prompting techniques (e.g., RISEN framework) for controlling AI outputs.

Module 4 — Generative AI Tools in Practice
Hands-on exploration of major GenAI tools for professional tasks.

Module 5 — Ethical & Responsible Use of Generative AI
Risks, limitations, governance principles, and responsible use in research and education.

Phase II — Applied Generative AI for Professional Workflows

(Integrating GenAI into Real Tasks and Workflows)

Module 6 — Job & Process Mapping for AI Integration
Mapping workflows and identifying opportunities for AI augmentation.

Module 7 — Task-Level Reengineering with GenAI
Redesigning specific tasks to effectively integrate AI assistance.

Module 8 — High-Impact Task Optimization & Applied Integration
Applying GenAI to priority tasks with structured prompting and validation.

Module 9 — Pilot Design & 48-Hour Implementation Sprint
Designing and executing small-scale AI integrations with measurable outcomes.

• Modular Curriculum: LMS

Phase III — AI Integration Strategy & Governance

(Embedding AI in Organizational Practices)

Module 10 — Overcoming Institutional & Technical Challenges
Addressing organizational barriers, policy concerns, and implementation constraints.

Module 11 — Building Institutional Readiness & AI Governance
Designing governance frameworks, readiness strategies, and adoption roadmaps.

Phase IV — Leading AI Transformation Initiatives

(Communicating, Scaling, and Sustaining AI Adoption)

Module 12 — Leading AI Transformation Initiatives
Developing and presenting AI initiatives that drive institutional change and long-term impact.

Lessons Learnt & Recommendations

- There's a huge gap in the **knowledge and Practical use of AI and GenAI tools**
- Tackle the knowledge gap with more **entry-level, hands-on programs**.
- Adopt a "**Learning to Learn**" model for long-term adaptability.
- **Complement with targeted tracks** when deep tool specificity is needed.
- Address **cost barriers** (open-source options, institutional/regional licensing, shared resources).
- **Scale via trainer-of-trainers (ToT)** cascades.
- Use **local languages** in national programs where possible.
- Blend **in-person** (depth, networking) with **online** (reach, continuity) for max impact.

Feedback

- "Thank you for organizing such a well-structured and engaging workshop. It provided an excellent balance of knowledge, networking, and practical experience. I look forward to future AP-GAINED+ activities."
- "Thank you for encouraging me to use Gen-AI in a different way."
- "It was a very pleasant training with very articulate, engaging, and knowledgeable speakers. The participants come from diverse backgrounds, which, interestingly, worked quite well!"
- "The workshop is very informative. I appreciate that even though I have very little knowledge in GenAi in the start, now I am confident that I have enough understanding to use GenAI tools in my daily tasks."
- "The training was fruitful and informative; however, the duration was short. Ideally, it **should be extended to one week** to understand the tools with the help of a master trainer."

AI for ALL

- LEARN launched the "**AI for ALL**" initiative
- Through a grant from **AVPN (Asia Venture Philanthropy Network): AI Opportunity Fund** for USD 100,000
- Supported by **Google.org, ADB, Gates Foundation,** etc.
- Structured AI Training program provided through **AI Singapore**
  - Using the TTT (Training the Trainer) model
  - **Numbers in Brief:** Total Targeted Trainees - 15000
    - 1500 Teachers
    - 4500 University Students from *non-STEM* fields
    - 9000 Vocational School Students [*marginalized*]

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Thank You!

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