KEMENTERIAN PENDIDIKAN TINGGI,
SAINS, DAN TEKNOLOGI
REPUBLIK INDONESIA

80 Bersatu Berdaulat Rakyat Sejahtera Indonesia Maju

DIKTISAINTEK BERDAMPAK

11th ADB International Education and Skills Forum:
Applying a Fresh Lens to Unlock the Power of Human Capital

How will the Triple Helix or Quadruple Helix work for the DMCs in the Southeast Asian region?

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How is the Triple Helix model—linking universities, industry, and government—currently shaping innovation and skills development?

Downstreaming G→I→U Collaborations for Applied Research

At present, Indonesia's **academic research commercialization percentage** stands at a relatively low level. This highlights the urgent need for bridging mechanisms to overcome the '**Valley of Death**' gaps between research output and market adoption.

Product Testing & Intellectual Property Strengthening → **Integrated Technology Transfer-Based Research Commercialization**

Sandboxing: Model & Prototype Testing
- Model/prototype testing for Technology Know-how Transfer (TKT) improvement
- Focus on testing

Product Feasibility Testing
- Product testing for industrial feasibility improvement
- Product ready for application in society
- Product ready to be adopted by the business and industrial world

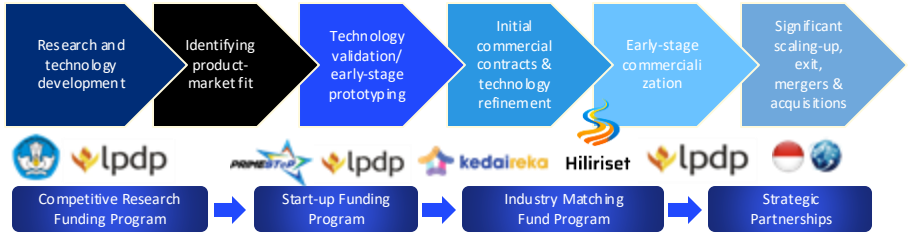
Deep tech: Intellectual Property (IP)
- Nationwide training on intellectual property applications
- Incentives for licensed and impactful patents

Industry Pull
- Solving problems needed by industry
- Researchers as problem solvers
- Product development and commercialization together with industry

Technology Push
- Curation of superior products from higher education research
- Feasibility and viability studies of research products
- Product development and commercialization together with industry

SYNERGY:
Integrated Technology Transfer-Based Research Commercialization Scheme

Multi-party Partnerships
- Partnerships with Industry
- Partnerships with Ministries/Agencies and Regional Governments
- International Partnerships



Proven Impact (2022–2024)

2.724 **Government-Industry-University collaborations**

2.110 **Industry Partners**

Total collaboration value reached
IDR Rp2.6 Trillion (2022-2024)
Co-funding scheme
- 45% by Government
- 55% by Industry

Orchestrating G→I→U Ecosystem of Ideas to Impact

Indonesia is improving institutional infrastructure to support **technology transfer** and **research commercialization**.

Case study: Promoting Research and Innovation through Modern and Efficient Science and Technology Parks (PRIME STEP)

Strengthening HCD & Institutional Infrastructure

All four university-based funded STPs are advancing in status, reflecting major institutional capacity strengthening from the Intermediate baseline.

Accelerating the Infusion of Research Culture into Industry

There has been a tangible increase in the number of Intellectual Property (IP/Patents) being utilized by industry.

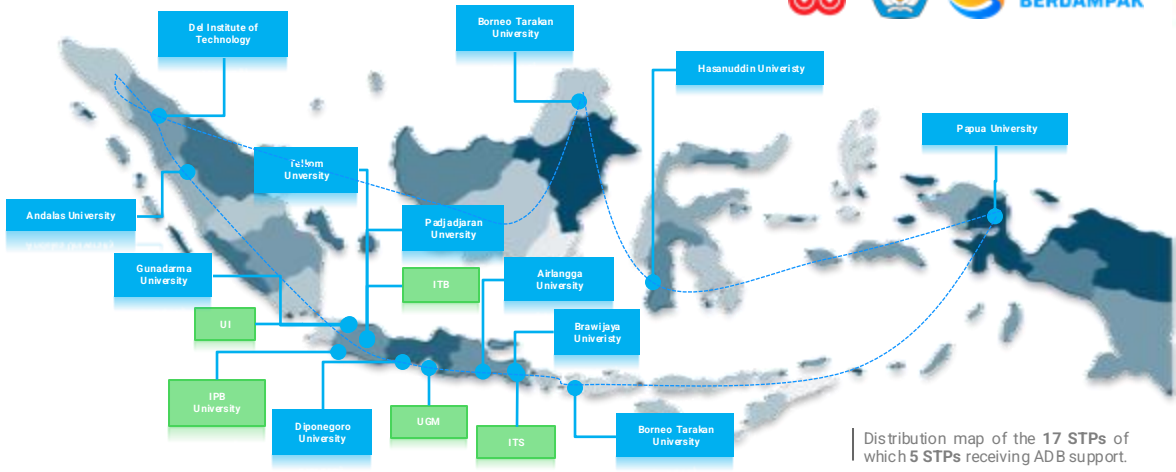
80 Intellectual Property assets from the four STPs have been adopted by industry through licensing and commercialization, surpassing the initial target of 60 IP.

31 Research projects at high Technology Readiness Level 9 (TRL 9) demonstrate that the innovations produced are technologically mature and ready for commercial implementation.

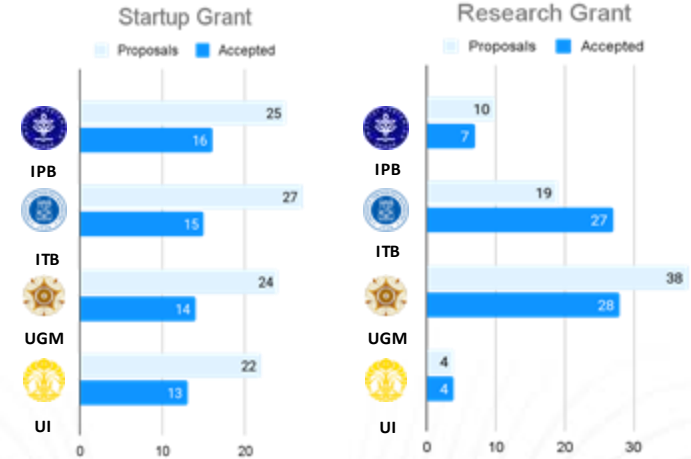
University-based Startup Creation

137 startup teams have qualified for incubation with a focus on quality and scalability toward Series A, B, and C funding.

The Triple Helix synergy is boosted through government funding support of IDR 696.5 Billion and JPY 6.58 Billion (2026 estimate), enhanced university human resource capacity, and adoption of 80 IPs by industry.



Distribution map of the **17 STPs** of which **5 STPs** receiving ADB support.



The research and startup incubation programs received **177 proposals** from all four STPs, with **116 selected teams** awarded grant funding (2025).

Indonesia has been increasing investment in research & development and innovation. From the Ministry's perspective, what are the biggest challenges in translating university research outputs into industry applications in scale, and how is the Ministry addressing these gaps?

Key Challenges and Strategies to Address the Gaps

Misalignment Between Industry Demand and University-based Research

Many research projects are still driven by academic interests rather than real industrial needs. As a result, research outcomes may not match market readiness or commercialization potentials.

Limited Commercialization Capability and TTOs Maturity

Technology Transfer Offices (TTOs) in many universities remain limited in capacity, resources, and business-oriented skills. Researchers possess strong scientific capabilities but often lack competencies in commercialization, market analysis, packaging technology, and intellectual property strategy.

Regulatory and Bureaucratic Barriers

Complex procedures for IP licensing, revenue sharing, and collaboration (especially those involving foreign investors) slow down technology adoption and reduce industry interest.

Addressing gaps:

Strengthening government-university–industry collaboration mechanisms through demand-driven research programs and co-funded schemes ensuring projects address real industrial needs (e.g. Catapult model in the UK)

Improving technology transfer infrastructure and capacity, including professionalizing TTOs, ecosystem within universities – expanding science and techno-parks, and providing training related to commercialization and innovation management.

Building solid innovation talent, including entrepreneurship training, startup incubation, real-world problem based hackathons and skill-development initiatives for researchers and students.

"An investment in knowledge pays the best interest." – Benjamin Franklin

Innovation isn't just about science and technology, but collaboration

Thank you