COORDINATING MINISTRY FOR ECONOMIC AFFAIRS
THE REPUBLIC OF INDONESIA

NATIONAL ECONOMIC COUNCIL
REPUBLIC OF INDONESIA

Organized by ADB

INTERNATIONAL CONFERENCE

INCLUSIVE ENERGY TRANSITIONS IN SOUTHEAST ASIA AND BEYOND

Cross-Regional Learning from South Asia

10–12 February 2026 • Jakarta, Indonesia

In collaboration with UNOPS, The University of Melbourne, NOSSAL INSTITUTE

Certified by IEEE SA STANDARDS ASSOCIATION, IEEE SSIT SOCIETY ON SOCIAL IMPLICATIONS OF TECHNOLOGY

CONTEXT

STRATEGIC OBJECTIVE

Accelerate research commercialization and technology-based innovation while strengthening PTN-BH financial independence through industry collaboration.

ECOSYSTEM STRENGTHENING

Bridge university research with industry needs and support startups and SMEs through **integrated innovation and business development facilities.**

INSTITUTIONAL OPTIMIZATION

Leverage PTN-BH autonomy (Law No. 12/2012) to position STP as **Centers of Excellence and alternative revenue generators** (non-APBN).

NATIONAL COMPETITIVENESS

Enhance higher education quality and national innovation capacity through increased **Technology Readiness Level (TRL) and strong PTN-BH infrastructure and talent**.

ITB Innovation Park At Glance

DKST
DIREKTORAT KAWASAN SAINS DAN TEKNOLOGI

ITB Innovation Park (DKST) serves as a **hub** at ITB - connecting industry, government, and academia to address real world challenges.

DKST nurtures an ecosystem that drives **technology commercialization** and **accelerates startup** growth, empowering stakeholders to enhance competitiveness and create lasting **impact**.

3 Main Function

Business Development

We help organizations shape the future through strategic technology planning, from foresight and roadmapping to research portfolio management. By fostering innovation leadership, cross-disciplinary collaboration, and organizational agility, we empower organization not just to adapt to change, but to lead it with resilience and sustainable impact.

Business Incubation and Acceleration

Our incubation and acceleration programs support technology-based businesses from prototype development to spinoff readiness. We offer startup grants, business planning, competitions, and matchmaking, complemented by consulting, mentoring, legal and business assistance, investor access, and co-working spaces.

Technology Transfer

We drive impactful downstream strategies, ensuring research innovations benefit end users through patent licensing, joint operations, joint ventures, and innovation-based startups. Our programs cover intellectual property management, protection, and commercialization support to bring cutting-edge research to market.

ITB Innovation Park Ganesha

Co-Working Space | Meeting Room | Function Hall | Leased Office | Virtual Office

ITB Innovation Park Kawasan Summarecon

Co-Working Space | Advance Lab | Function Hall | Leased Office | Meeting Room | Virtual Office

STP ITB research and development administration, partnerships, and start-up incubation

1. Innovation Development

The Innovation Research Grant Schemes fund TRL 7 projects for prototype refinement, real-life testing, and industry collaboration, bridging research and commercialization.

It supports technical validation, business feasibility, and industry partnerships for market adoption.

The Commercialization Scheme focuses on IP licensing, joint ventures, and joint operations, enabling technology transfer, collaboration, and resource sharing to turn research into market-ready solutions.

2. Incubation

The Startup Incubation Program supports technology-based startups at TRL 5-7, providing mentorship, business model development, and industry networking to accelerate commercialization.

This program offers structured guidance in product validation, market entry strategies, and investor readiness. **Startups receive access to** coaching, technical support, funding opportunities, and ecosystem partnerships to enhance their growth potential.

By bridging innovation with market needs, the program helps startups refine their solutions, secure industry collaborations, and scale effectively.

3. Acceleration

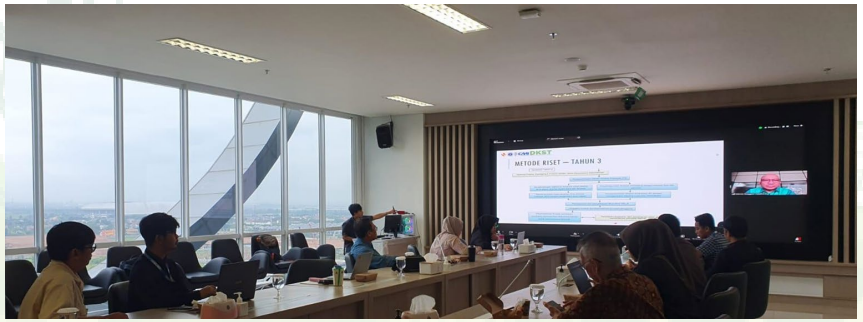
The Startup Acceleration Program supports TRL 7-9 startups in scaling and market expansion.

It provides business mentorship, investor networking, market access, and funding opportunities to accelerate growth. **Startups receive guidance** on scaling operations, securing investments, and establishing strategic partnerships.

The program helps startups strengthen their market position and drive commercialization success.

Activities

A. STP ITB research and development administration, partnerships, and start-up incubation



The ITB **Research Innovation, Incubation, and Startup Acceleration Funding Program** supports technology commercialization through three stages.

B. Capacity of STP ITB strengthened

The **Capacity Development Program** is designed to strengthen innovation and research ecosystems through five key initiatives.

PRIMESTEP ITB-IN NUMBER

18 *Incubatees*

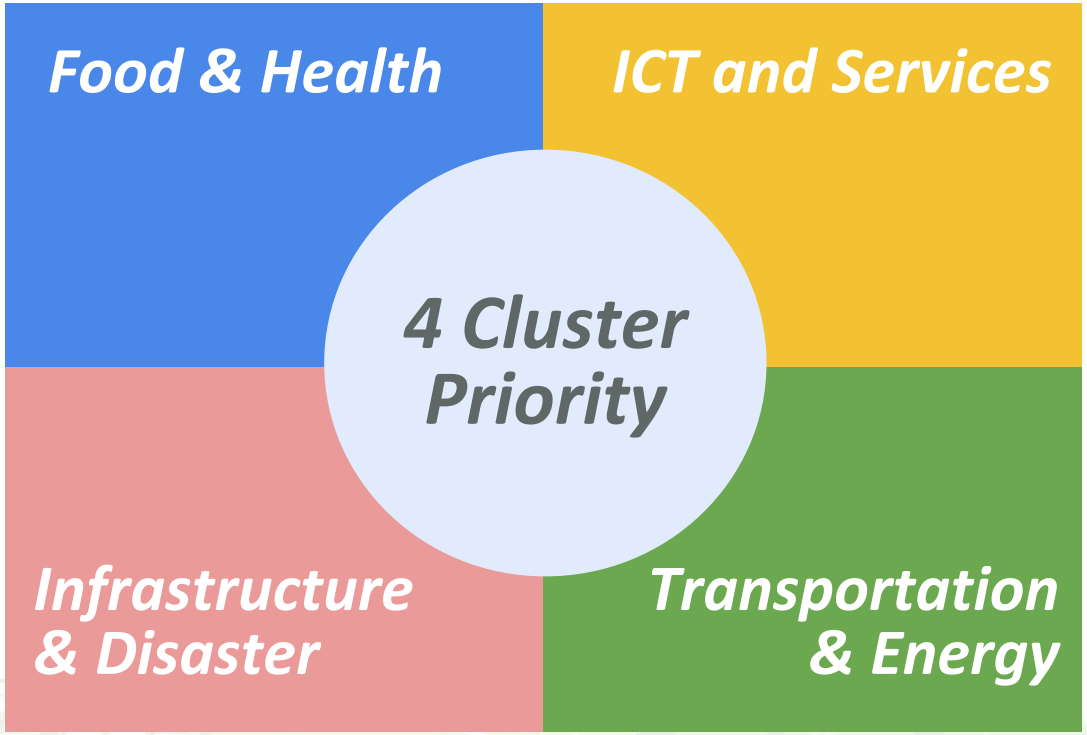
Incubation Program
PRIME STeP 2023-2025

11 *Accelerated*

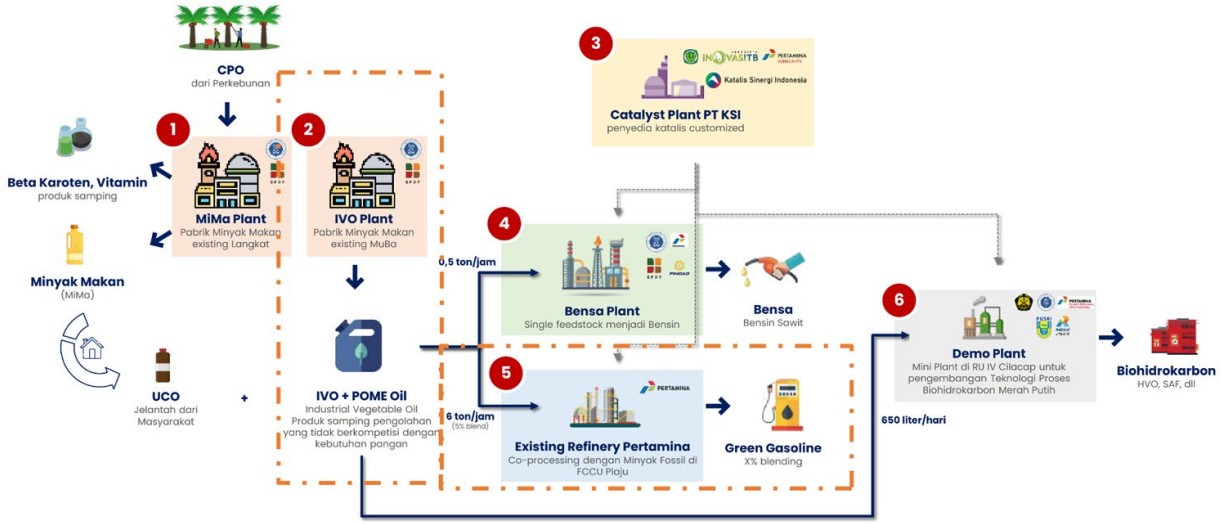
Acceleration Program
PRIME STeP 2023-2025

52 *Innovation Program Funded*

Innovation Development
PRIME SteP 2023-2025



Sustainable Processing of Bio-Based Feedstocks and *Merah Putih* Catalyst Technology to Reduce Gasoline Imports



Indonesia, as the world's largest CPO producer, has significant potential to strengthen national energy security through the development of palm-based gasoline (Bensa) derived from bio hydrocarbons. The abundant **CPO production**, most of which is still exported, represents an opportunity to be converted into high value-added biofuels that support energy independence and the implementation of Presidential Regulation No. 109/2020. Through downstream palm oil industry research, **Bensa** production technology is being developed from **Industrial Vegetable Oil (IVO)** using the **Merah Putih catalyst, integrated with smallholder palm plantations and capable of processing various types of palm oil feedstock.**

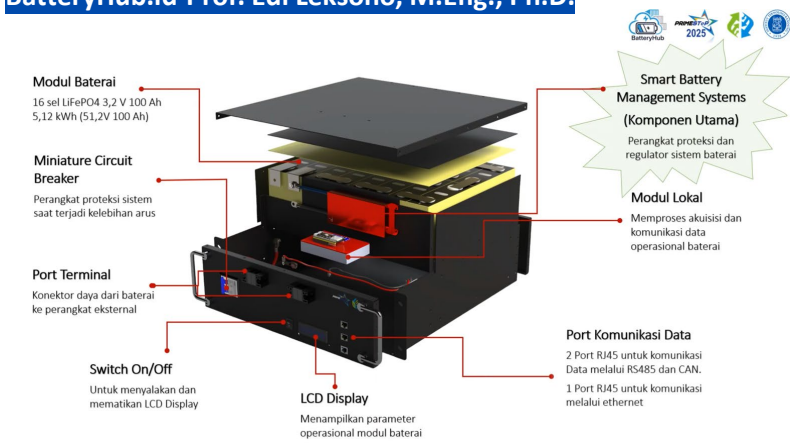
This development includes process and reactor optimization, provision of IVO that meets quality standards, establishment of pilot units and economically viable small-scale demonstration facilities, as well as performance testing and techno-economic evaluation. This approach enables Bensa production to be feasible not only at large scale but also in relatively small and distributed plants, thereby promoting the use of local raw materials, local employment, fulfillment of local energy needs, and strengthening of regional economies, particularly in an archipelagic country such as Indonesia.

RESEARCH - ENERGY

Batari Energy-Dr. Eng. Ferry Iskandar M.Eng.



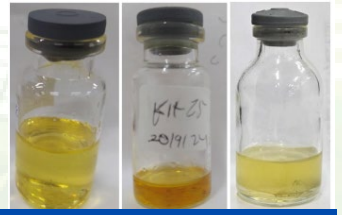

BatteryHub.id-Prof. Edi Leksono, M.Eng., Ph.D.



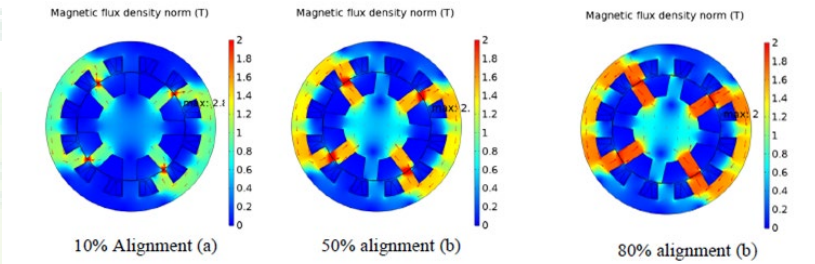
Panel Solar Absorber-Poetro Lebdo Sambegoro M.Sc., Ph.D.


Battery Pack - Dr. Bentang Arief Budiman S.T, M.Eng.

MODULTRAX V3-Bismo Jelantik Joyodiharjo, S.Sn., M.Ds



Katalis Komposit Ni-KIT-6@ZSM-5 Dr. Ir. I.G.B. Ngurah Makertihartha



Switched Reluctance Motor-Dr. Tri Desmana Rachmildha S.T, M.T.

ALGATEK

Turning Carbon into Sustainable Value Through Algae Innovation

Algatek is an Indonesian biotechnology company committed to advancing sustainable solutions through the integration of algae and plankton technologies with Internet of Things (IoT) systems. The company focuses on **carbon capture optimization, photobioreactor innovation, scalable biomass production, and the development of algae-based** derivatives that support **renewable energy**, agriculture, and environmental industries. By combining biological science with digital monitoring and control technologies, Algatek delivers data-driven, efficient, and environmentally responsible solutions that contribute to climate mitigation, resource efficiency, and the transition toward a **circular bio-economy.**

DKST Energy Innovation Category

Greenlabs SUSTAINING ENVIRONMENT · Indera agri · agroobot revolutionary agricultural industry · ALGATEK

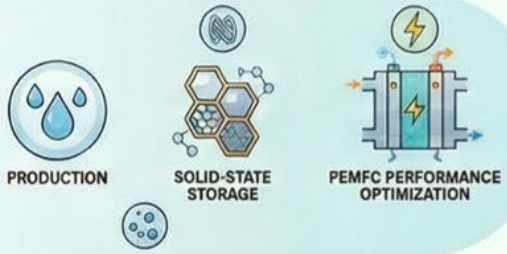
UGM Innovation Ecosystem: Leading the Energy Transition

Spearheading a transdisciplinary approach to energy and technology through Hydrogen Valley and Link & Match programs, transforming fundamental research into industrial solutions.

CORE TECHNOLOGICAL PILLARS

The Hydrogen Technology Ecosystem

An integrated system spanning production, solid-state storage, and PEMFC performance optimization for sustainable utilization.



Sustainable Metal Fuel Technology

Utilizing iron powder combustion to generate clean power and retrofit existing coal-based plants.

Cold Plasma for Human Flourishing

Applying non-thermal "Fourth State of Matter" technology to medicine, agriculture, and food safety.

STRATEGIC COLLABORATION FRAMEWORK

Industry-Driven "Link & Match"

Resoarchers immorse in industrial sites to formulate innovative solutions for real-world manufacturing challenges.

The Hydrogen Valley at Yogyakarta

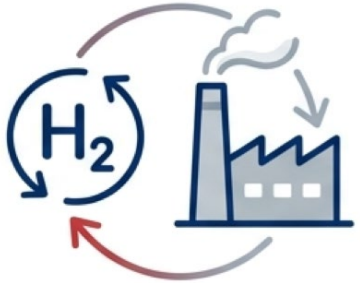
A national center connecting research, industry, and government from upstream to downstream.

Global NEDO Partnerships

Strengthening international R&D with Japan to facilitate decarbonization and deep-tech startup growth.

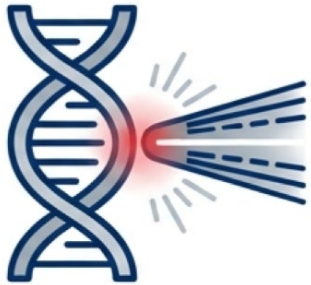
From Lab to Life: A Comprehensive Innovation Ecosystem
Scaling the partnership from isolated projects to a holistic ecosystem

Renewable Energy



Establishing a "Hydrogen Va l l e y " and circular Metal Fuel economy to support decarbonization

Life Science Innovation

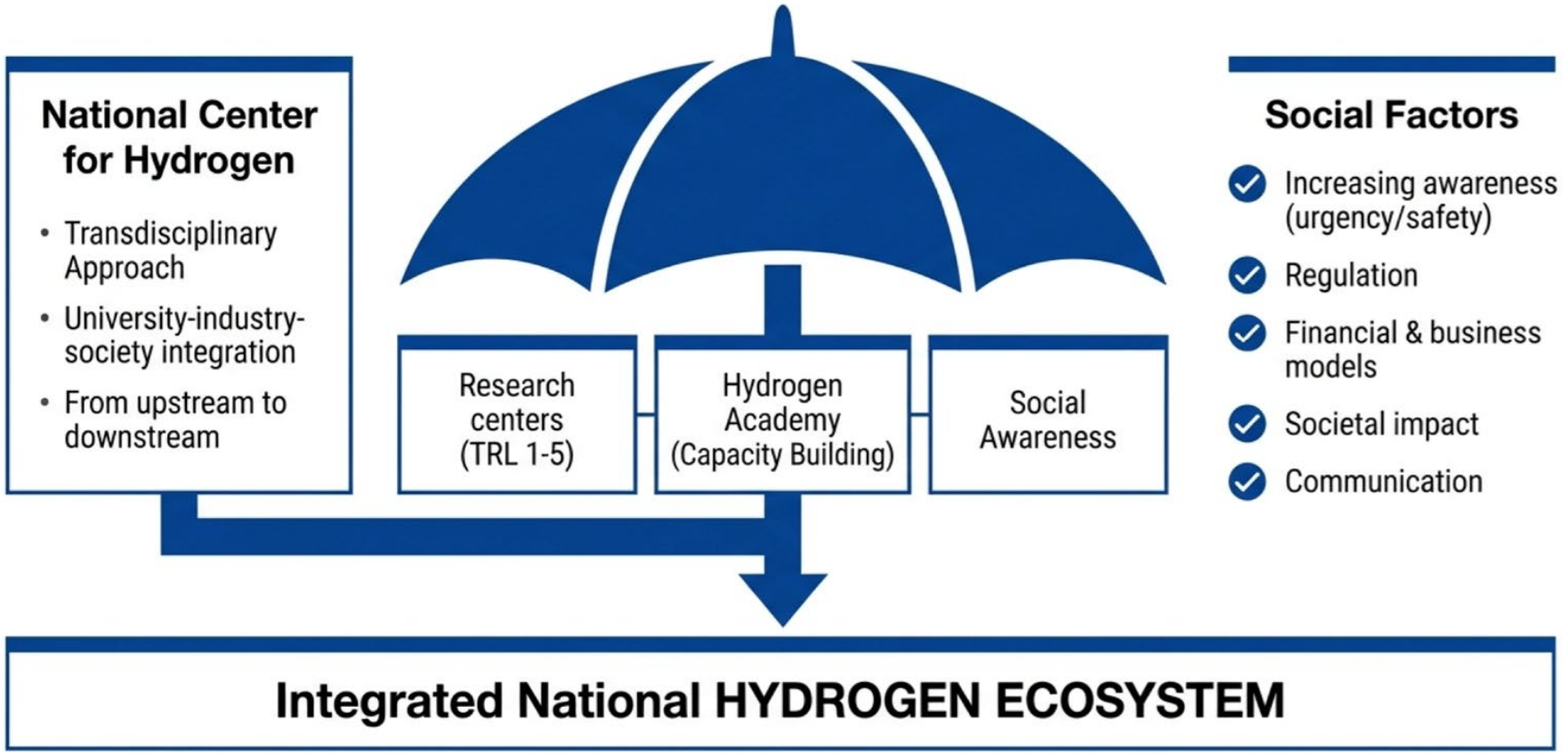


Utilizing Non-Thermal Cold Plasma technology for medical, agricultural, and food safety applications

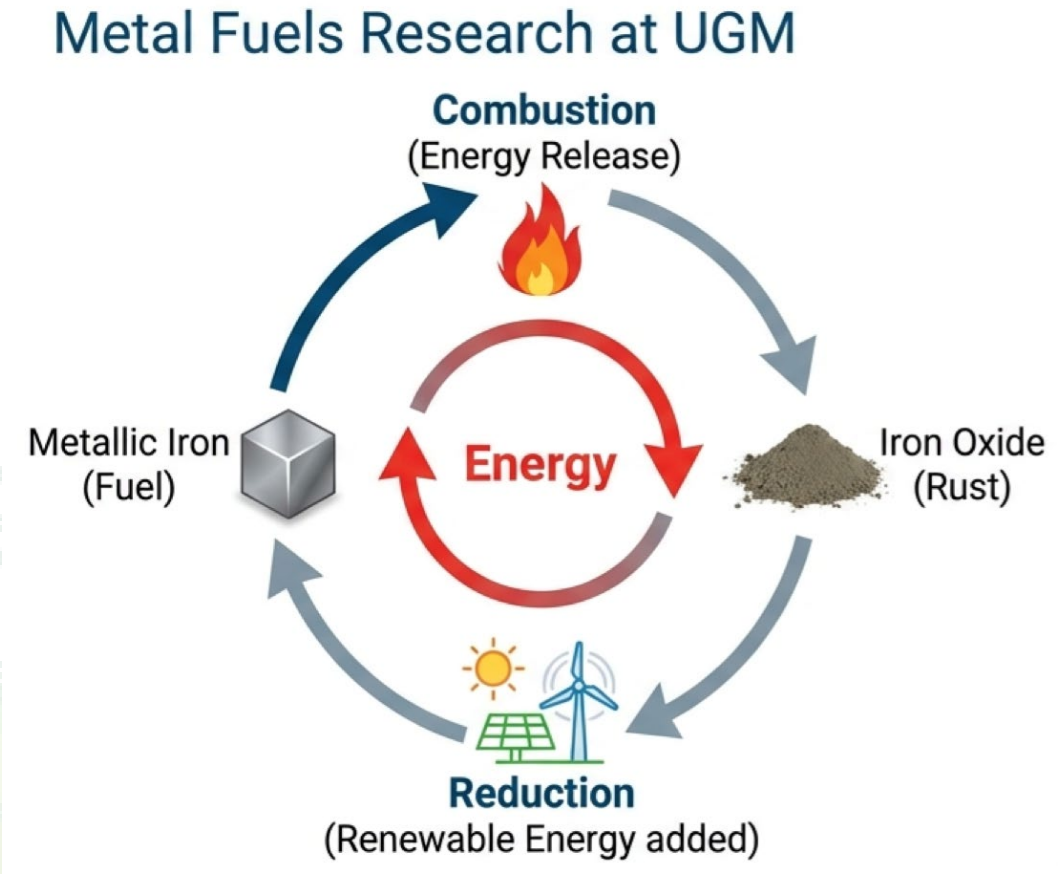
Strategic Implementation

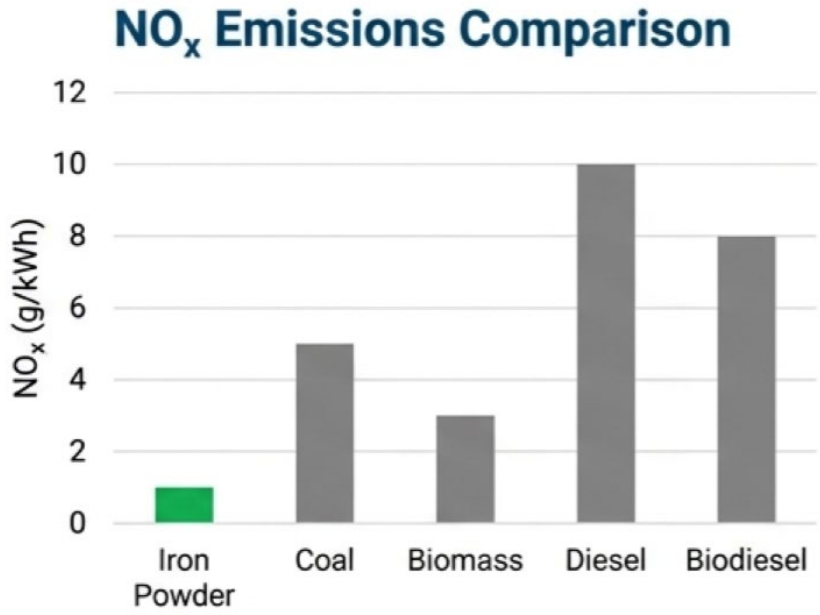
Utilizing "Link & Match" industrial immersion and International Funding schemas to ensure commercial viability.

The Vision: An Integrated National Hydrogen Ecosystem



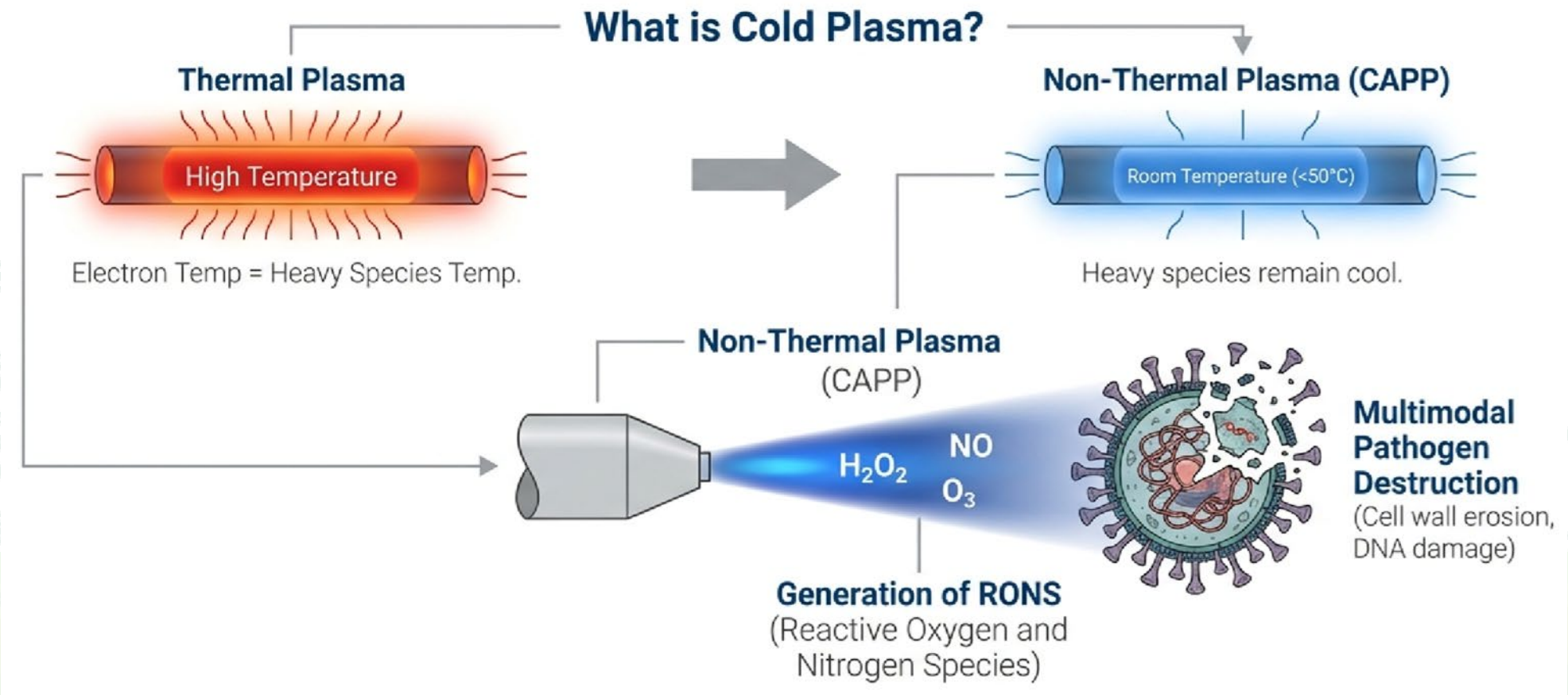
Metal Fuels: The Circular Iron Power Cycle





Iron combustion with air produces minimal NOx compared to fossil fuels.

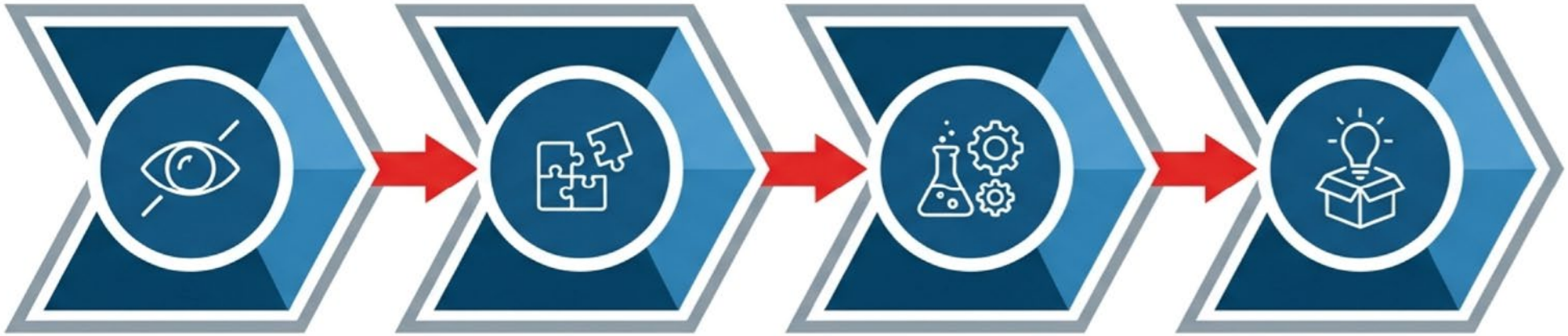
Cold Plasma: Technology for Human Flourishing



The Collaboration Engine: UGM Link & Match

Industry–Driven Research Workflow

Link & Match



Immersion

Lecturers visit industrial sites to observe and identify challenges.

Link & Match

Formulating solutions specifically for identified industry needs.

Collaborative Research

Joint R&D execution with co-funding.

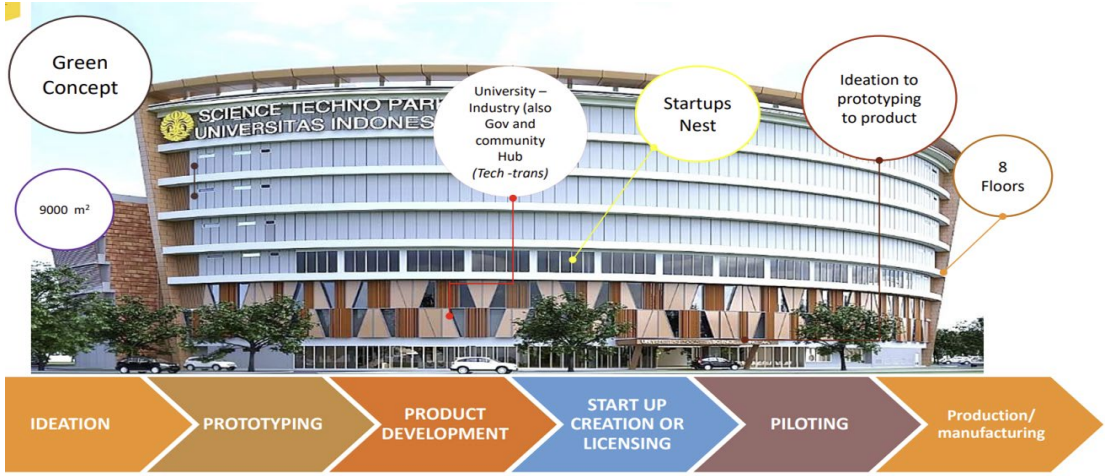
Output

Practical solutions and positioning UGM as a strategic R&D partner.

THE STRATEGIC ROLE OF STP UI IN GREEN INDUSTRY

Universities are not only knowledge institutions, **but transformation engines** for **sustainable industrial ecosystems**

- Global shift toward low-carbon economy & ESG compliance
- Universities as:
  - Knowledge producers (research & patents)
  - Technology incubators
  - Talent suppliers
  - Neutral innovation platforms
- From academic research → applied technology → industrial adoption
- Alignment with SDGs & national green transition agenda



Core Functions:

- Technology commercialization & IP management
- Startup incubation & acceleration
- Industry partnership facilitation
- Prototype development & pilot project deployment

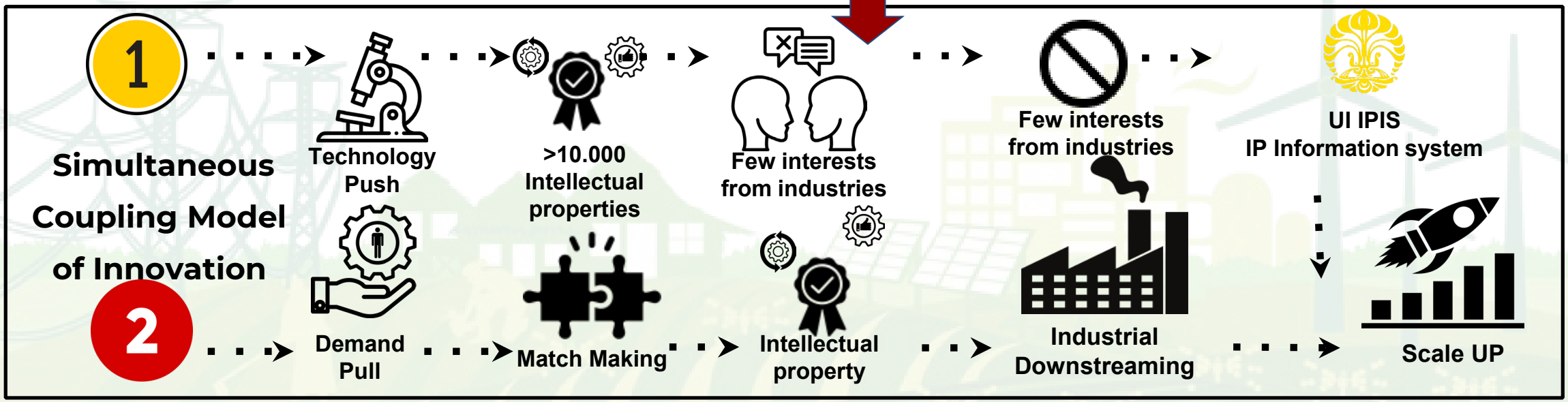
Green Industry Focus Areas:

- Renewable energy & energy storage
- Circular economy & waste valorization
- Green materials & sustainable construction
- Environmental monitoring technologies

STP UI: BRIDGING RESEARCH TO GREEN INDUSTRY

1. **Misalignment of priorities** : Universities focus on publications, while industries prioritize market readiness, speed, and profitability.
2. **Low Technology Readiness Level (TRL)** — Many innovations remain at early concept or prototype stages, not yet ready for industrial adoption.
3. **Limited funding and scale-up facilities** — Insufficient capital, pilot plants, and testing infrastructure make it difficult to advance technologies to commercial levels.
4. **Complex intellectual property (IP) and licensing issues** — Unclear ownership, lengthy negotiations, and uncertain commercial value often slow down collaboration.
5. **Lack of entrepreneurial mindset and weak ecosystem support**

As a result, these challenges often lead to the ***innovation death valley***, where promising technologies and innovations fail to reach the market.



PRIORITY TOPICS FOR UI INNOVATION

UI focuses on **11 thematic areas** of innovation products, in addition to social sciences and humanities

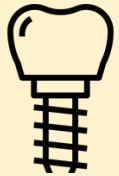

Vaccine


Stemcell

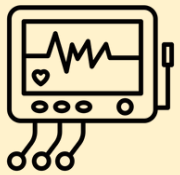

Herbal Medicine & Phytopharma-ceutical


Functional Food

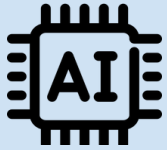
Drug & Functional Food


Dental Care & Implant


Bone Implant


Electromedical & In Vitro Diagnostics

Medical Devices



Artificial Intelligent


Renewable Energy


Advanced Building

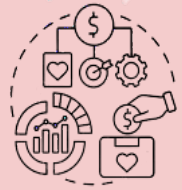

Transportation

Engineering

The thematic areas encompass 3 clusters of scientific disciplines at UI: t**he Health Sciences, the Science and Technology, and the Social Sciences and Humanities**


Social change

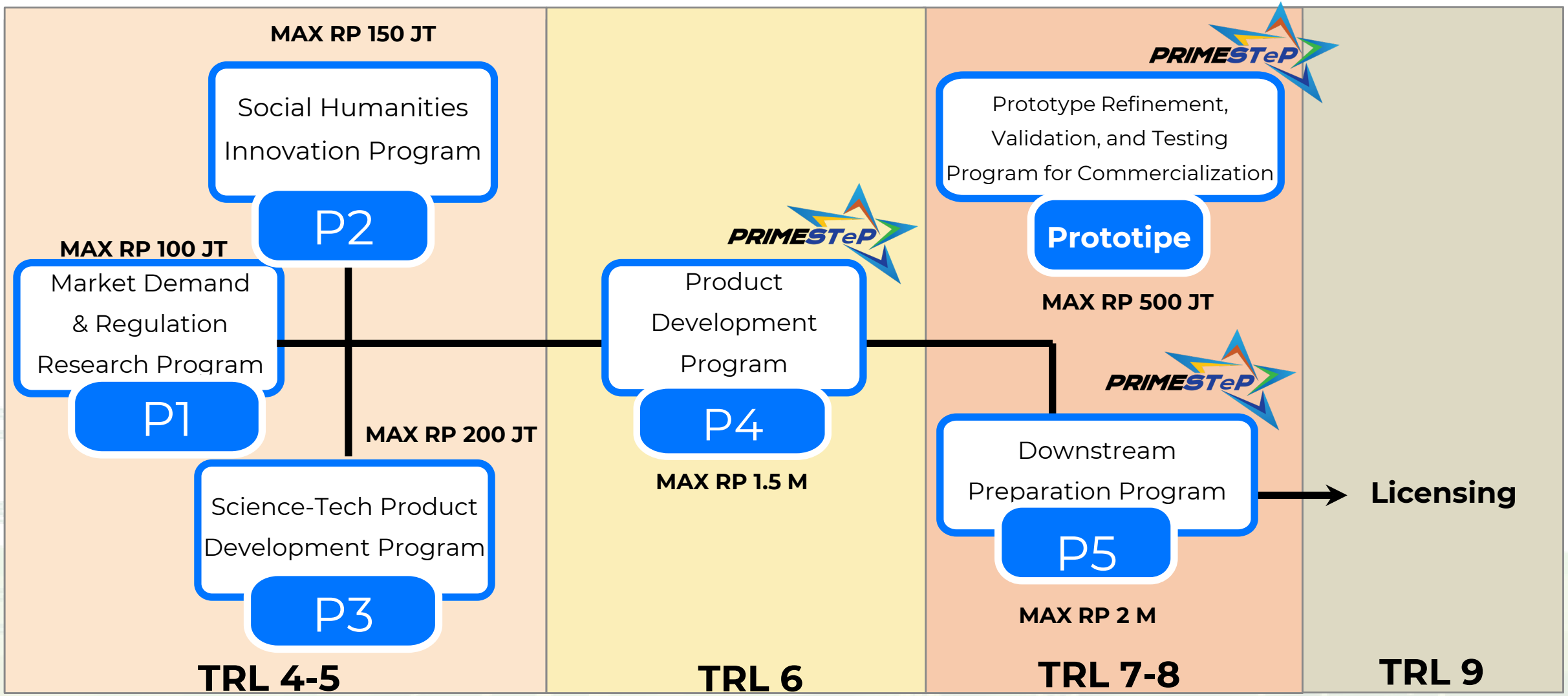

Democracy


Inclusive socio-economic


Maritime development

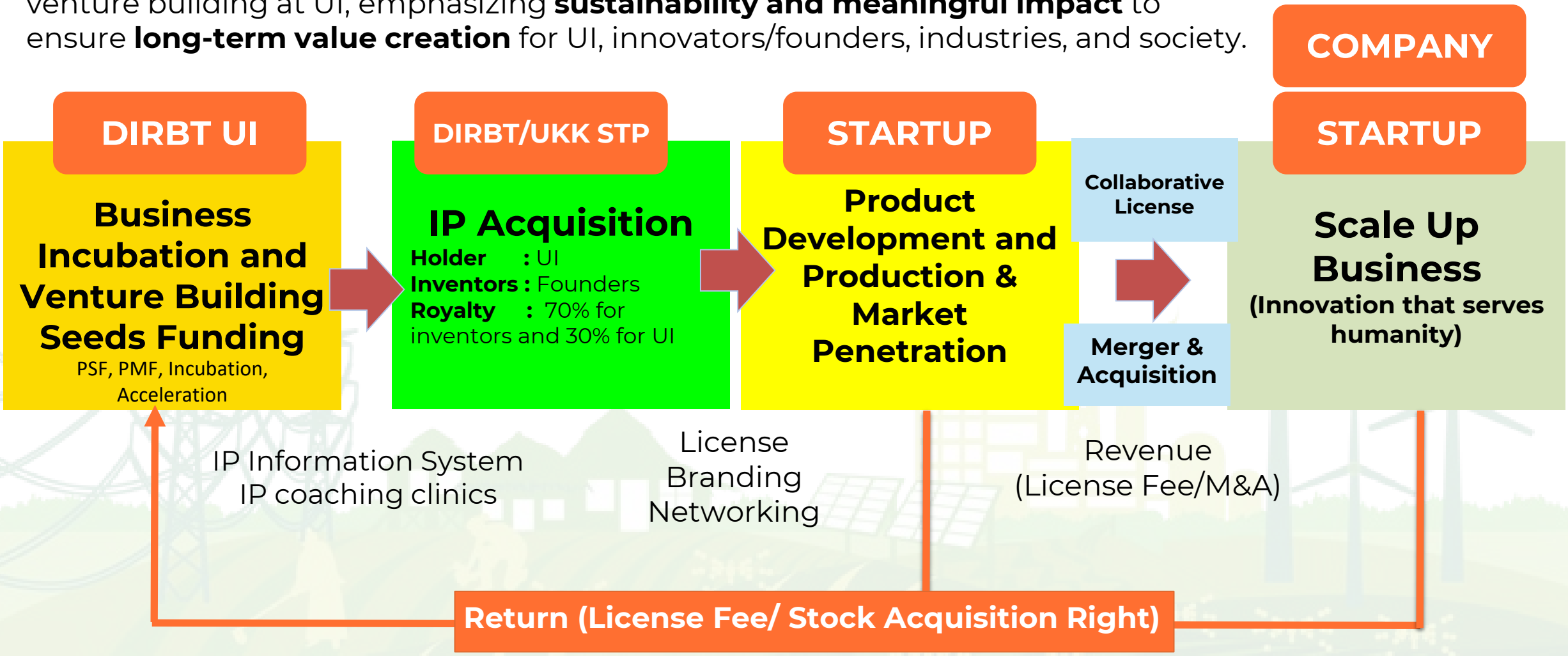
Social Sciences and Humanities

RESEARCH AND INNOVATION FUNDING SUPPORT



SUSTAINABILITY IMPACT OF INCUBATION

This implemented concept introduces a new approach to business incubation and venture building at UI, emphasizing **sustainability and meaningful impact** to ensure **long-term value creation** for UI, innovators/founders, industries, and society.



HACKATHON : INNOVATE. CREATE. IMPACT

PRIMESTeP

2025

Registrants #439

Selected Founders #81

Engineering	60.9%
Electromedicals/ IVD	21.7%
Social Sciences	13.0%
Drugs & functional foods	4.3%

Most startups are from Engineering, with most of them focus on Artificial intelligence (AI)

Scheme Category

#12 Problem Solution Fit Stage

#11 Product Market Fit Stage

Founders Background

Universitas Indonesia	78.3%
Public/ Professional	21.7%

The majority of founders come from the academic community and UI alumni, with others coming from the general public and professionals in related topics.

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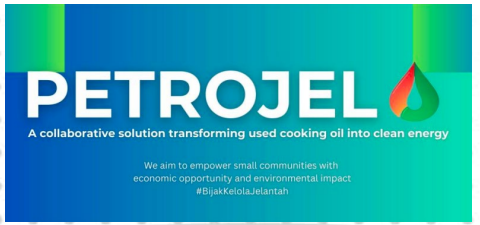
SOME OF LICENSED GREEN PRODUCTS INNOVATION (2025)



PETROJEL

Sustainable and Responsible Management of Used Cooking Oil into Biodiesel

PT Energi Hijau Lestari

Abdul Rahman

EC002025197104

REMINER

Recycling Mining & Industries Residue

PT Rekayasa Mineral Residy

Nama Peneliti

EC002025197501

TERUMBU

Sustainable Marine Tourism Platform

PT Terumbu Lestari Nusantara

Muhamad Reza Pahlevi

EC002025197605

Jokeen:

Smart Renewable Energy Charging Hub for MRT station

PT Jokeen Solusi Teknologi

Puguh Pambudi, S.T.

EC002025196380

BUSINESS MATCHING FOR STRATEGIC PARTNERSHIP DEVELOPMENT

THANK YOU!

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