UNIVERSITY OF CAMBRIDGE

Cambridge Industrial Innovation Policy

Lessons from industrial innovation policy research on attracting investment and building domestic capabilities

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Asian Think Tank Network (ATTN) Forum

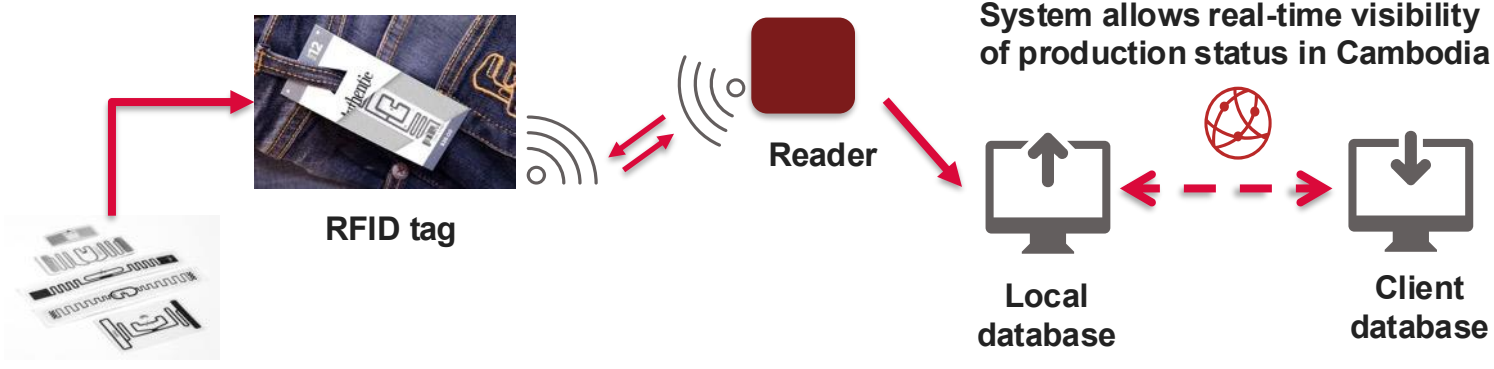
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A use case from Cambodia to begin with…

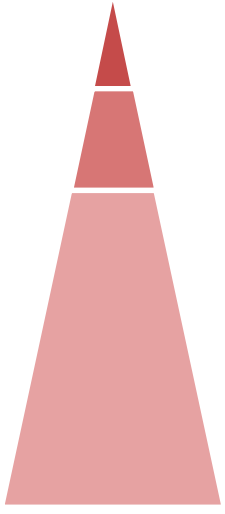
Garment firm in Cambodia

Using radio-frequency identification (RFID) to monitor operations and share information with clients



Source: CIIP (2020) Adaptation and adoption of industry 4.0 in Cambodia. UNDP.

What tools? A stratified approach to technology adoption



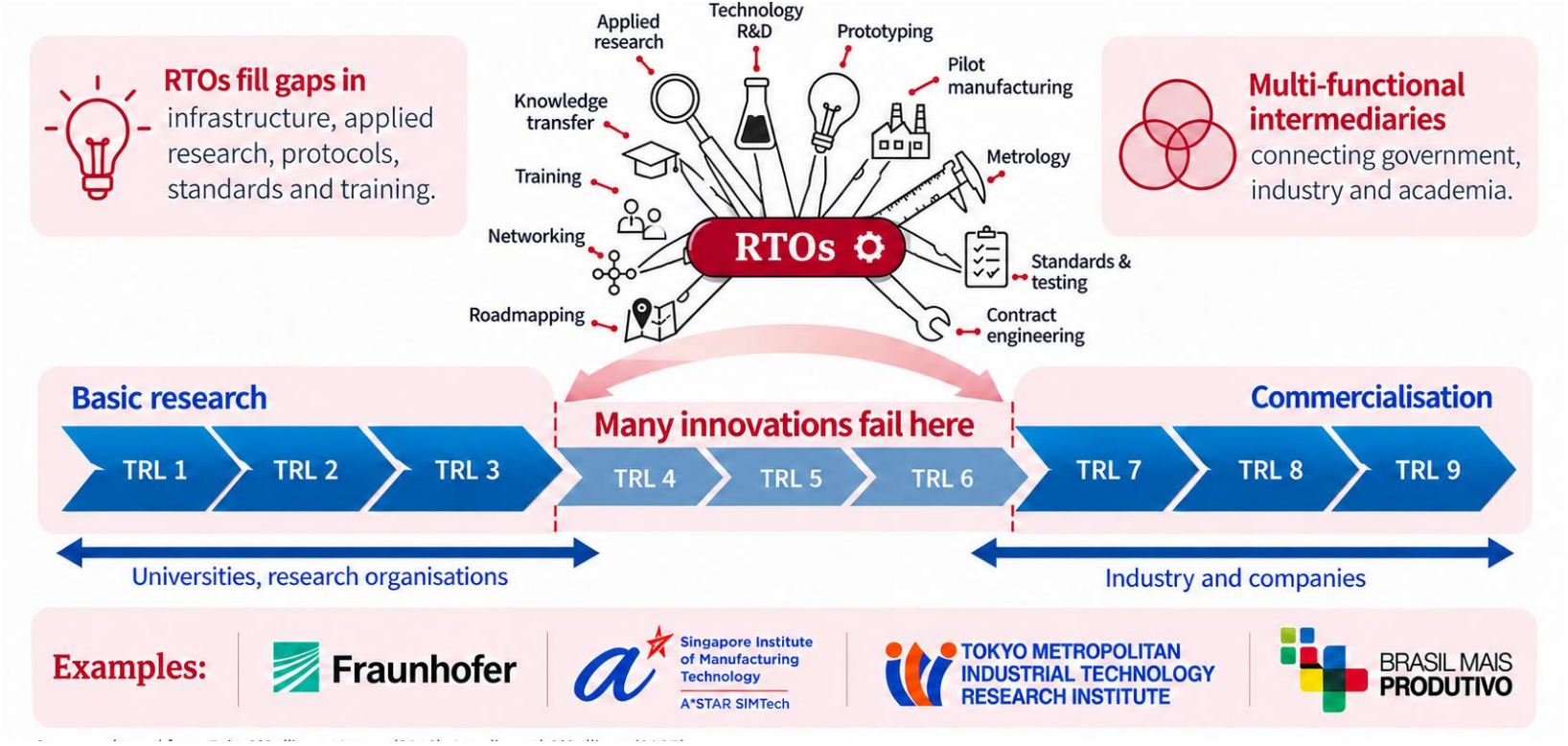
% of Indonesian firms	Needs	Relevant mechanisms
Advanced (~6%)	Keep building R&D and commercialisation capabilities	• **Specialised R&D services** • **Access to advanced facilities** • **Exchange of R&D personnel**
Intermediate (~30%)	Consolidate basic innovation capabilities	• **Tech advisory programs** • **Inclusion in research clusters** • **Support to acquire foreign IP**
Basic (~64%)	Improve basic technology management practices	• **Extension and tech advisory services** • **Technology "toolboxes" or "toolkits"** • **Basic training**

n: 502 firms.
Aswicahyono and Rafitrand 2019

Source: López-Gómez, Priasto and Kamiya (2026). Accelerating Industrial Digitalisation in Indonesia. **Asian Development Bank**.

Focus on: Research and Technology Organisations (RTOs)

Conceptualised as '**super intermediaries**' or '**boundary organisations**' because of their unique multiple intermediary role in the triple helix of government, industry and academia



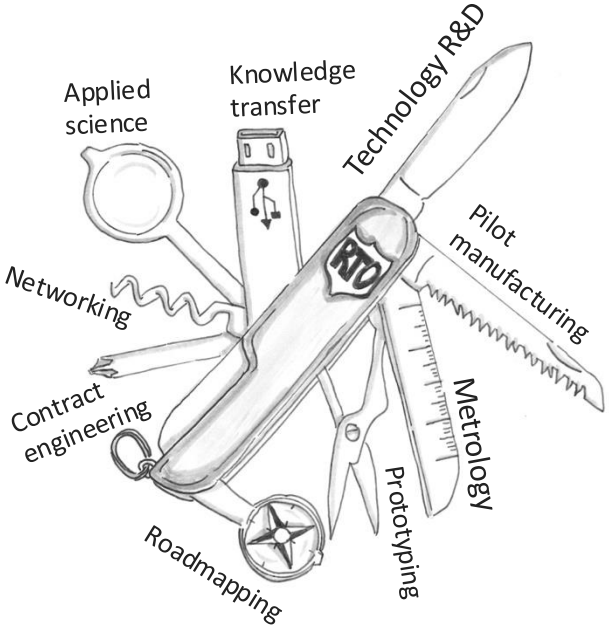
Source: Hauser, 2010; Anzolin and O'Sullivan, 2025

Focus on: Research and Technology Organisations (RTOs)

- Innovation intermediation aims at filling the gaps (e.g., infrastructure, applied research, protocol, standards, and training) along the innovation process
- RTOs conceptualised as ‘super intermediaries’ or ‘boundary organisations’ because of their unique multiple intermediary role in the triple helix of government, industry and academia

  (Hauser, 2010; Anzolin and O’Sullivan, 2025)

The RTO - a multi-functional tool



Source: Eoin O’Sullivan

Example: public research and technology organisations (RTOs)

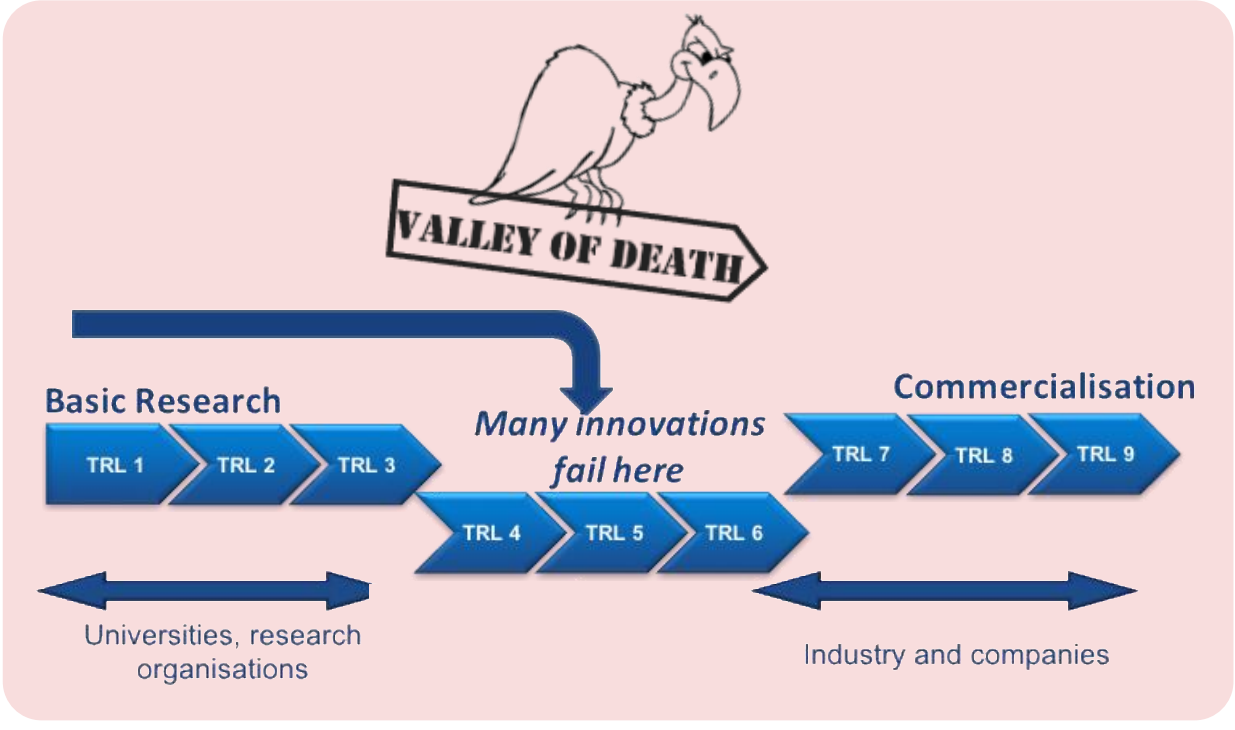
Fraunhofer

Singapore Institute of Manufacturing Technology
A*STAR SIMTech

TOKYO METROPOLITAN INDUSTRIAL TECHNOLOGY RESEARCH INSTITUTE



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Example: Supplier development in Singapore

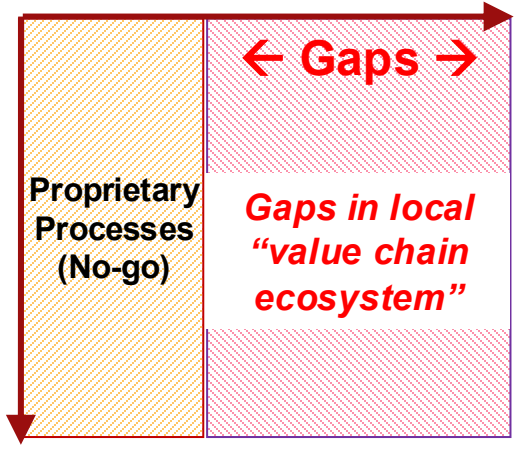
'Industry verticals'
(e.g. aerospace, oil & gas, MedTech)



Precision engineering firms
(machinery & systems; precision modules & components)

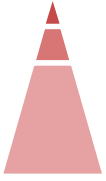
~2,500 local firms

'Queen Bee' *
Processes & Services



*** Queen Bee:** Anchor firm in key role in value chain

Conclusions



Stratified approach to capability upgrading

- Tailored support for firms at different capability levels
- Combination of diagnostics, advisory services, demonstration hubs, and learning platforms



Long-term investment in institutions that embed technology and innovation capabilities

- Mapping of existing testbeds, piloting environments, and demonstration zones
- Consider Research Technology Organisations as flexible tools

"Painstaking effort, industry by industry, to look at ways to redesign jobs and raise productivity, to upgrade skills, and establish better career progression for workers" **– DPM Wong**