PROMOTING AI USE FOR TRADE AND GROWTH GAINS IN THE ASEAN

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43RD SINGAPORE ECONOMIC ROUNDTABLE, 18 NOVEMBER 2025

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World trade is changing. Are you?

Purpose

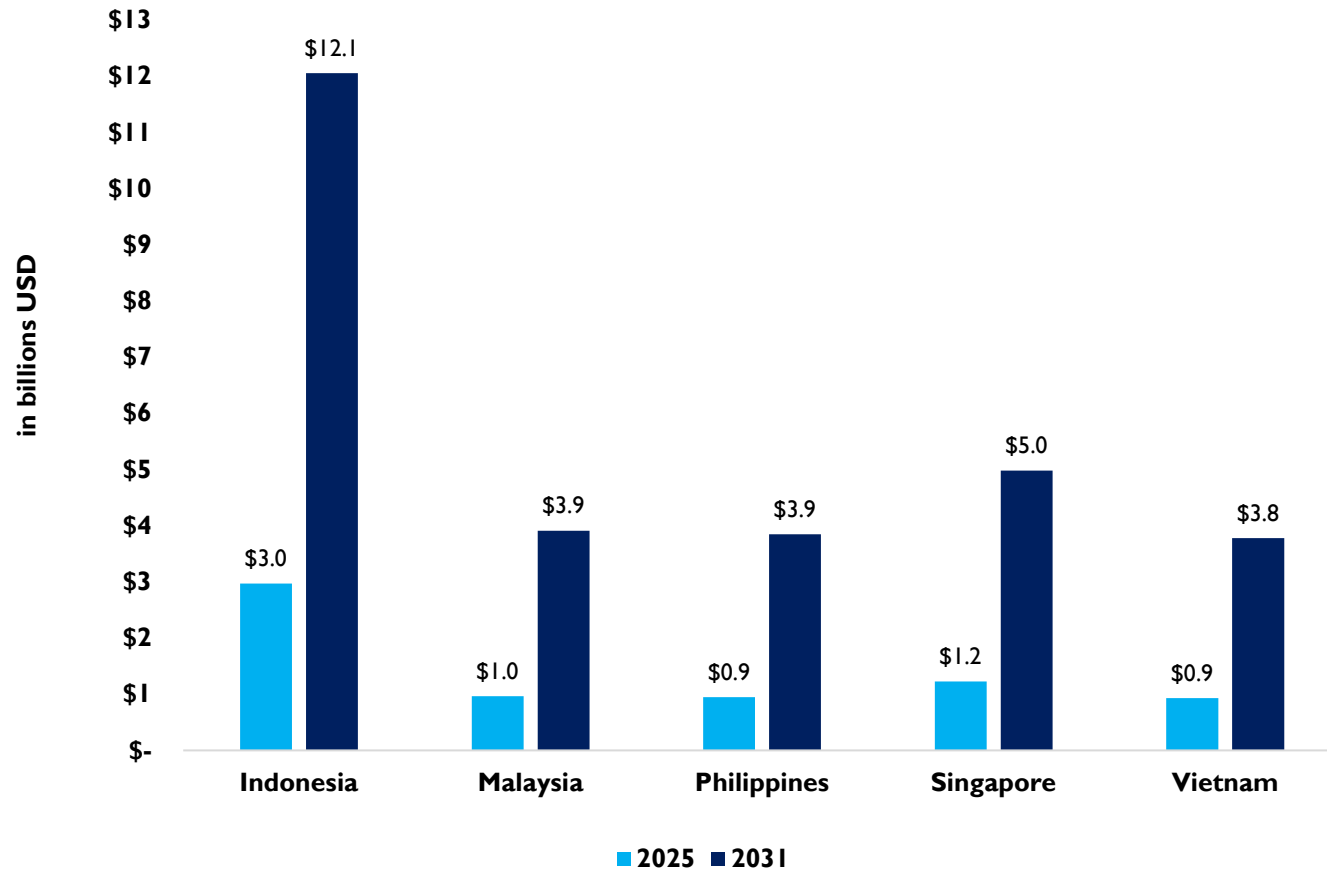1. **Tracking AI adoption and gains in the ASEAN:**

   - AI startup ecosystem in the ASEAN

   - SMEs' adoption of and gains from AI

   - Impact of AI adoption on ASEAN trade

2. **Policies to promote adoption, use and regional scalability**

   - ASEAN economies' AI policy readiness

   - Through DEFA: driving common AI governance and "trade in AI"

   - What can Singapore do in 2027?

ASEAN AI markets to soar to ~40% yoy by 2031; infrastructure expands; economic contribution >$1T

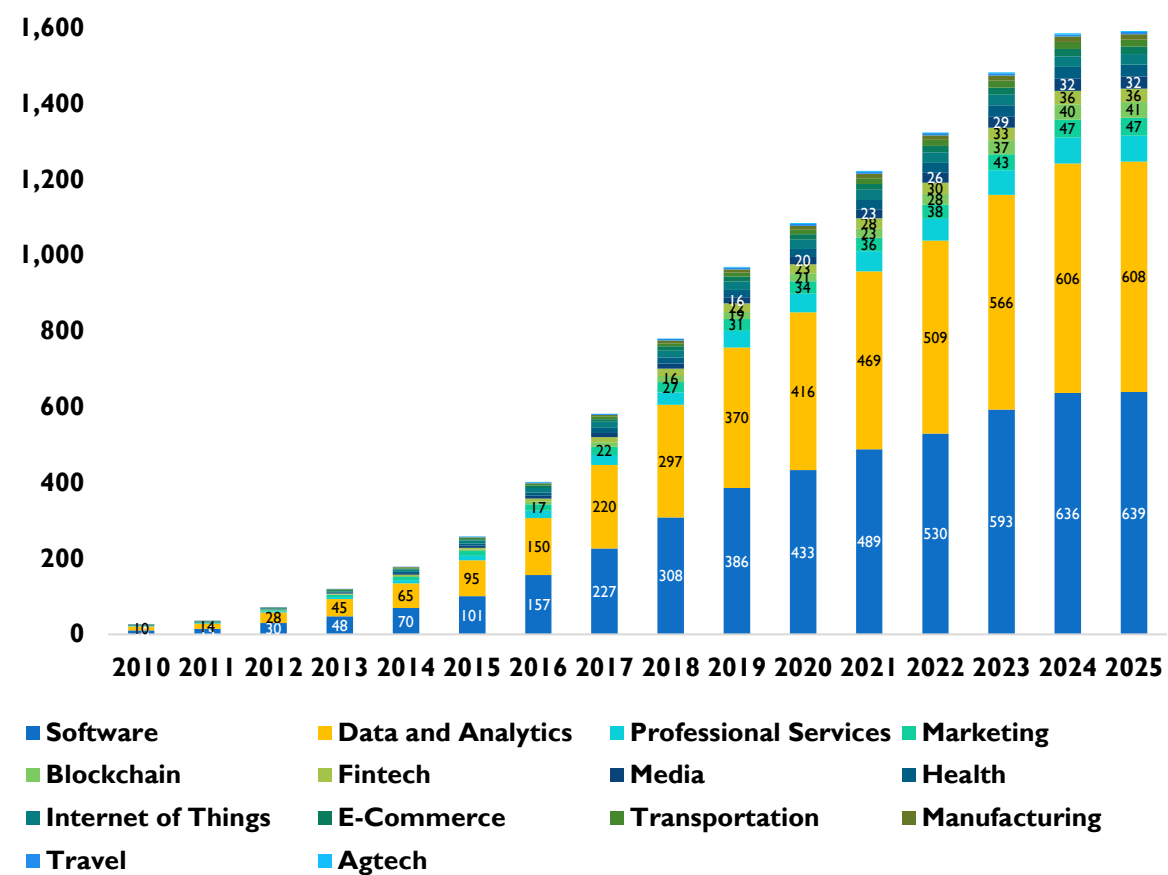**Size of ASEAN economies' AI markets, 2025 and 2031 (in billions USD)**

in billions USD

	Indonesia	Malaysia	Philippines	Singapore	Vietnam
2025	$3.0	$1.0	$0.9	$1.2	$0.9
2031	$12.1	$3.9	$3.9	$5.0	$3.8

■ 2025 ■ 2031

Source: Statista

- **Kearney and EDBI**: **AI to contribute an additional $1 trillion to ASEAN's GDP by 2030**, with **13-18% GDP gains** to **Indonesia, Malaysia, Singapore, and Thailand**

- **Oxford Economics and Cisco**: **AI and related technologies could create up to 28 million new jobs in AI development, data science, and automation management in ASEAN by 2028**

- **Google, Temasek, Bain (2025): With 4,620 MW of planned capacity, the total data center capacity in SEA is projected to grow by 180%**

> 1,600 AI startups led by Singapore in diverse verticals – software, manufacturing, healthcare, etc.; AI startups make up a growing share of startup ecosystem

AI-driven startups by sector in 2010, 2020, and 2025 by year and industry

Legend:
- Software
- Data and Analytics
- Professional Services
- Marketing
- Blockchain
- Fintech
- Media
- Health
- Internet of Things
- E-Commerce
- Transportation
- Manufacturing
- Travel
- Agtech

AI-driven startups as % of all startups in 2021-25, by economy

Economy	2021-22	2023-24	2025
Indonesia	2%	7%	14%
Malaysia	4%	14%	17%
Philippines	3%		12%
Singapore	10%	29%	27%
Thailand	6%	10%	
Vietnam	6%	11%	8%
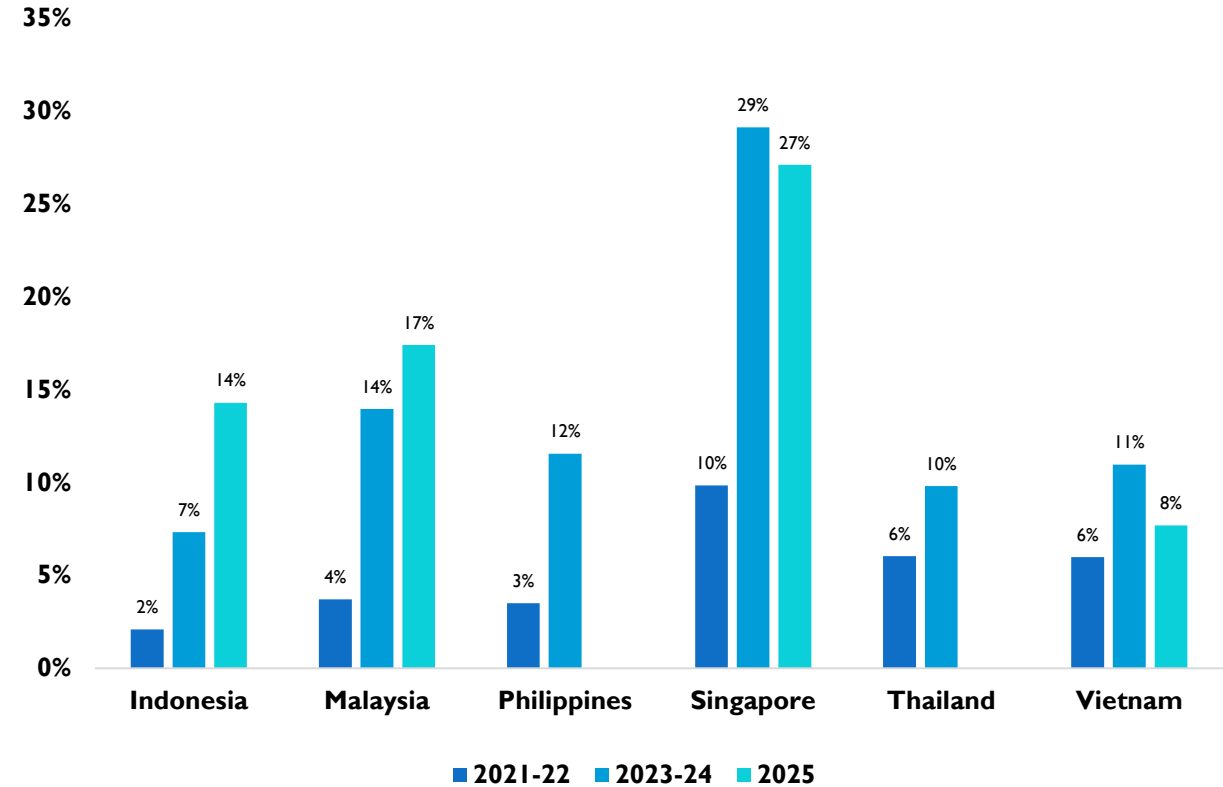
AI startup ecosystem is scaling fast, with >$16 billion raised (similar to Korea); AI startups are better funded than typical startups

Cumulative investments in AI startups in various ASEAN economies, 2012-25

Y-axis (left): ASEAN economies except Singapore, in billions USD — $-, $0.5, $1.0, $1.5, $2.0, $2.5

Y-axis (right): Singapore, in billions USD — $-, $2, $4, $6, $8, $10, $12, $14

X-axis: 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

Legend: Indonesia, Thailand, Malaysia, Philippines, Vietnam, Singapore
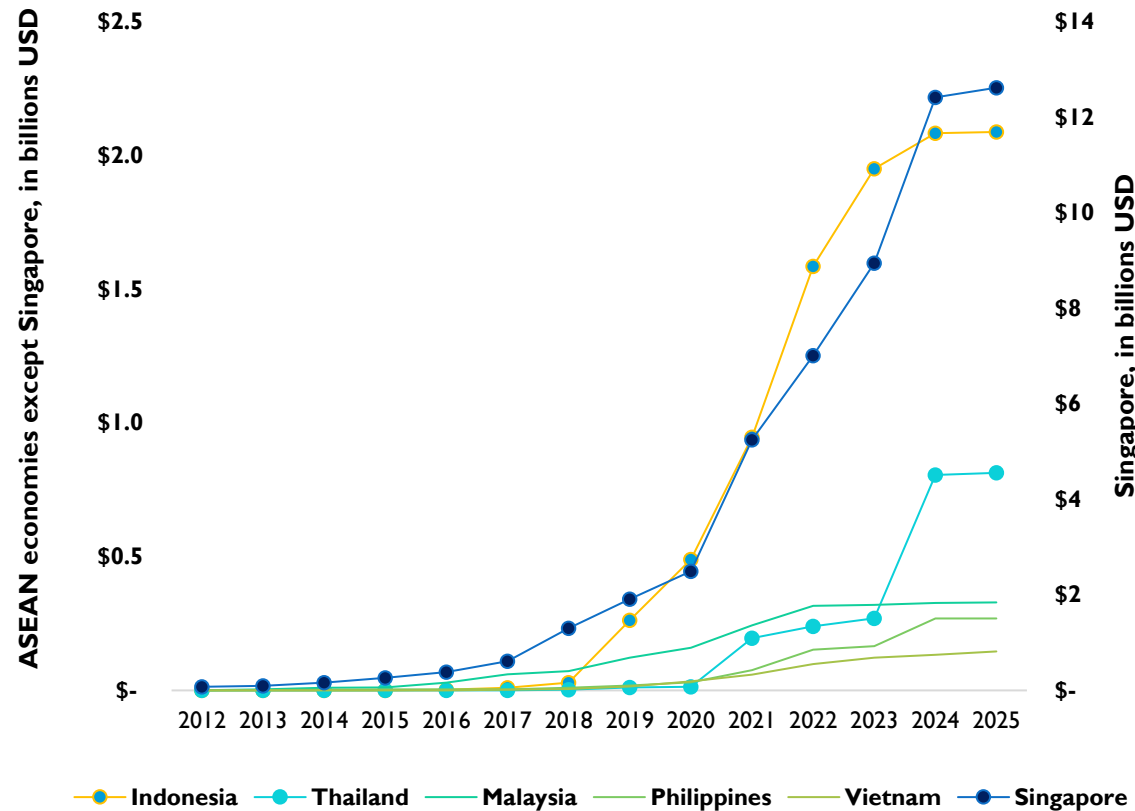
Share of AI-driven startups with $1 million or more, $10 million or more, and $100 million or more raised in the ASEAN
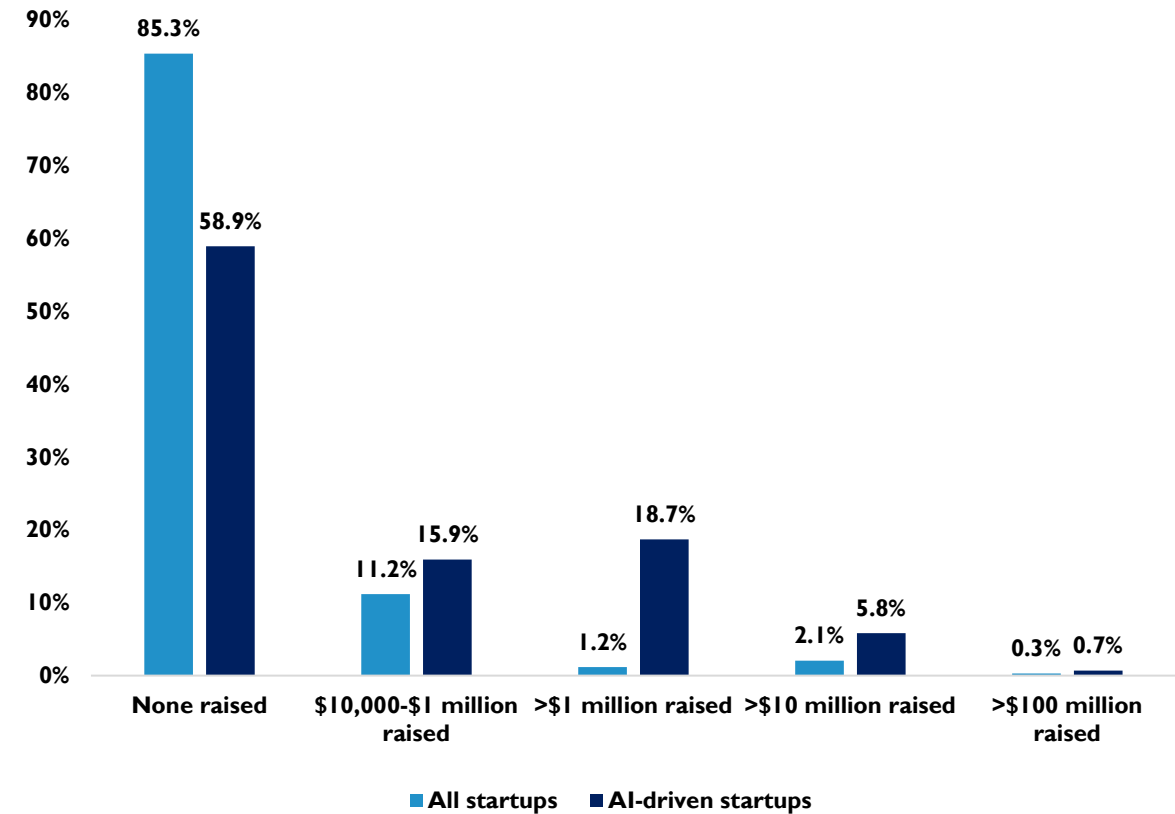
Category	All startups	AI-driven startups
None raised	85.3%	58.9%
$10,000-$1 million raised	11.2%	15.9%
>$1 million raised	1.2%	18.7%
>$10 million raised	2.1%	5.8%
>$100 million raised	0.3%	0.7%

Legend: All startups, AI-driven startups

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SMEs are also adopting AI: 69% of micro and small and 79% of medium firms already use generative AI, with significant adoption rates in the past three years; >60% of users invest 3% or more of revenue

Digital services and AI adoption, by firm size and years used

Micro and Small (1-50 employees)

	>5 years	4-5 years	2-3 years	<1 year	Plan to use in 2025	Do not use this
Generative AI like ChatGPT	4%	5%	25%	34%	19%	13%
Cloud services	11%	13%	23%	20%	19%	14%
CRM tools	6%	8%	23%	25%	17%	22%
ERP systems	8%	10%	22%	21%	19%	20%
Other AI tools	4%	6%	18%	27%	25%	20%

Medium (>50 employees)

	>5 years	4-5 years	2-3 years	<1 year	Plan to use in 2025	Do not use this
Cloud services	26%	19%	23%	14%	12%	6%
Generative AI like ChatGPT	8%	9%	30%	31%	12%	9%
ERP systems	15%	19%	24%	17%	12%	13%
CRM tools	12%	18%	26%	19%	15%	10%
Other AI tools	8%	12%	21%	28%	20%	11%

Legend:
- We have used >5 years
- We have used 4-5 years
- We have used 2-3 years
- We have used <1 year
- We plan to use this in 2025
- We do not use this

SMEs' investment in AI as a share of revenue, by firm size

	Micro and small (1-50 employees)	Medium (>50 employees)
>10% of revenue	9%	16%
6-10%	19%	32%
3-5%	34%	30%
1-2%	23%	16%
0% of revenue	15%	7%

Legend:
- 0% of revenue
- 1-2%
- 3-5%
- 6-10%
- >10% of revenue

AI superusers turn adoption into a measurable advantage – higher productivity, revenue growth, exports

Share of firms reporting gains in AI, by level of investment in AI and firm size

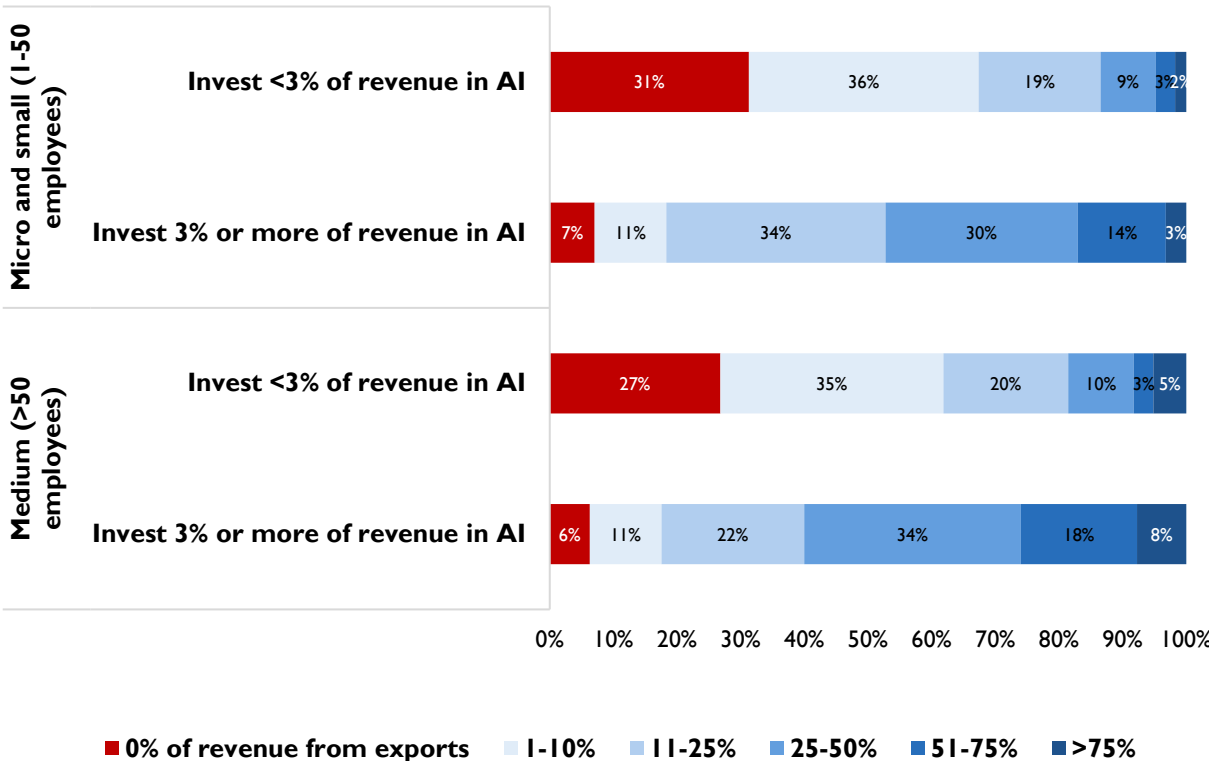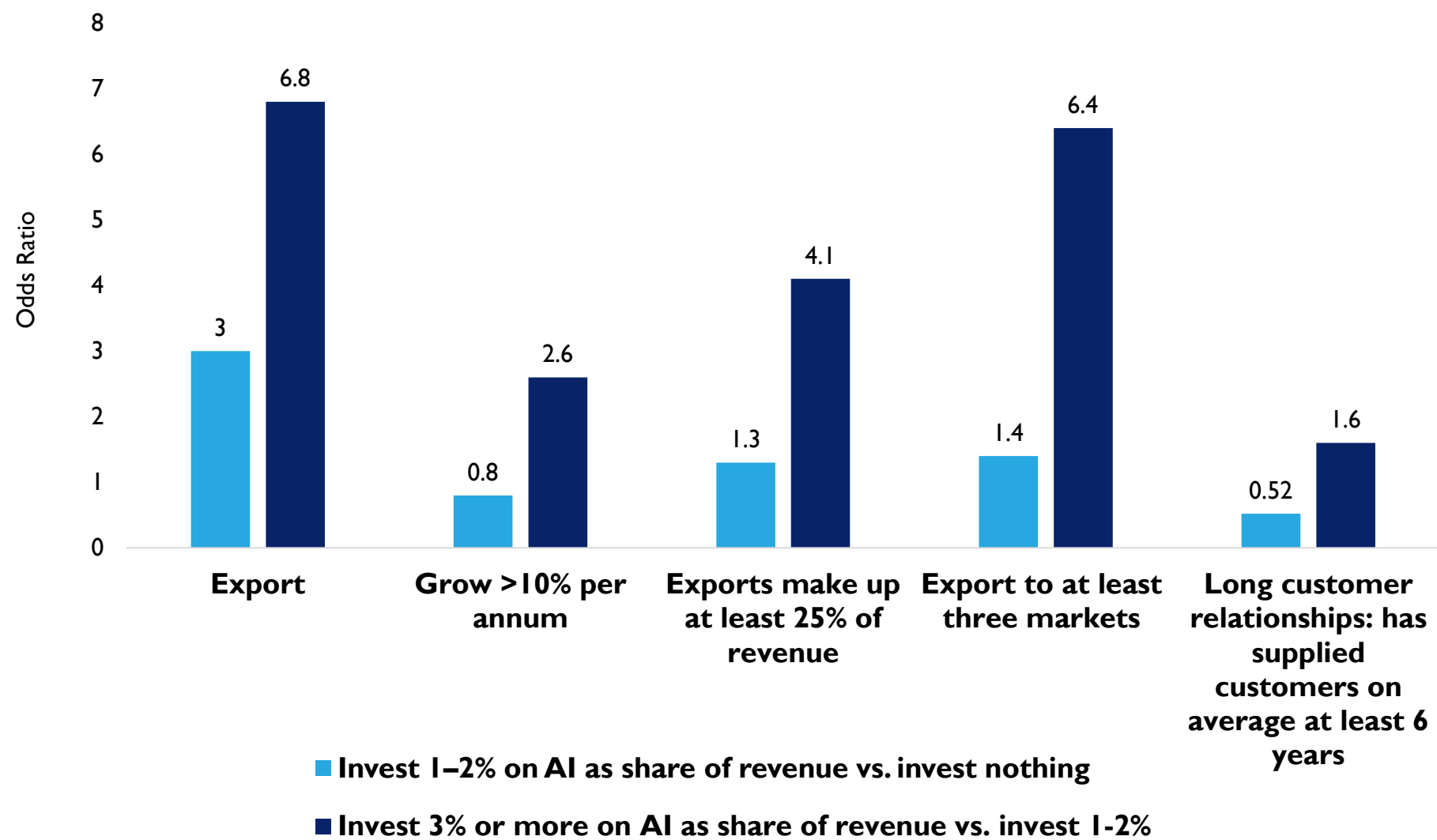| Category	Values
Greater productivity in company	61%, 55%, 51%, 39%
More power out of our data, like for…	50%, 45%, 41%, 36%
Identify new patterns and opportunities	40%, 41%, 28%, 36%
Streamline our workflows and operations	41%, 35%, 27%, 28%
Improve interactions with our vendors	41%, 40%, 20%, 26%
New customers	44%, 44%, 21%, 17%
Higher revenue	45%, 41%, 16%, 22%
Higher profits	47%, 37%, 23%, 16%
Diversify into new products and services	40%, 32%, 25%, 20%
Improve cash flow	35%, 29%, 15%, 19%
Access new export markets	38%, 25%, 20%, 12%
Reduce number of employees	29%, 25%, 23%, 17%
Increased hiring	16%, 14%, 9%, 6%
Other	1%, 4%, 5%, 11%

Legend:
- ■ Medium (>50 employees) Invest 3% or more of revenue in AI
- ■ Micro and small (1-50 employees) Invest 3% or more of revenue in AI
- ■ Medium (>50 employees) Invest <3% of revenue in AI
- ■ Micro and small (1-50 empolyees) Invest <3% of revenue in AI

Export revenue as a share of total revenue, by AI investment level and firm size

Micro and small (1-50 employees)

Investment	0%	1-10%	11-25%	25-50%	51-75%	>75%
Invest <3% of revenue in AI	31%	36%	19%	9%	3%	2%
Invest 3% or more of revenue in AI	7%	11%	34%	30%	14%	3%

Medium (>50 employees)

Investment	0%	1-10%	11-25%	25-50%	51-75%	>75%
Invest <3% of revenue in AI	27%	35%	20%	10%	3%	5%
Invest 3% or more of revenue in AI	6%	11%	22%	34%	18%	8%

Legend:
- ■ 0% of revenue from exports
- ■ 1-10%
- ■ 11-25%
- ■ 25-50%
- ■ 51-75%
- ■ >75%

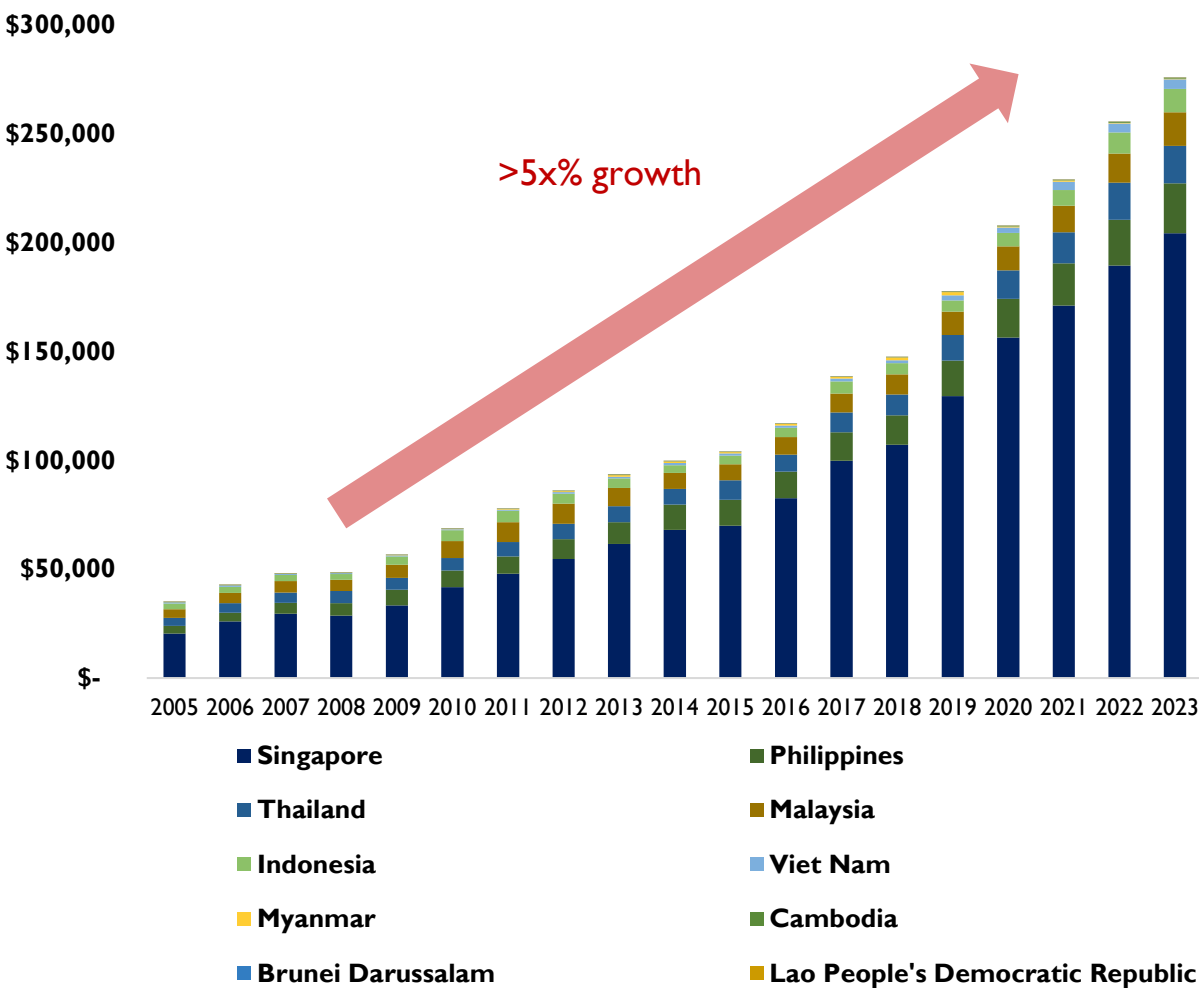Source: Nextrade Group survey with from 2024-25 with 1600 ASEAN firms

AI "superuser" firms are likelier to export, diversify and have durable client relationships than peers that invest only a little (controlling for other things like firm size and sector)

Odds Ratio

Export	Grow >10% per annum	Exports make up at least 25% of revenue	Export to at least three markets	Long customer relationships: has supplied customers on average at least 6 years
3 / 6.8	0.8 / 2.6	1.3 / 4.1	1.4 / 6.4	0.52 / 1.6

■ Invest 1–2% on AI as share of revenue vs. invest nothing

■ Invest 3% or more on AI as share of revenue vs. invest 1-2%

AI ecosystem doubles → 14% growth in digital trade. AI has played and will play a role in ASEAN's digital services export revolution….

Digitally deliverable services exports in East and Southeast Asian countries (millions USD) 2005-24

>5x% growth

Legend:
- ■ Singapore
- ■ Thailand
- ■ Indonesia
- ■ Myanmar
- ■ Brunei Darussalam
- ■ Philippines
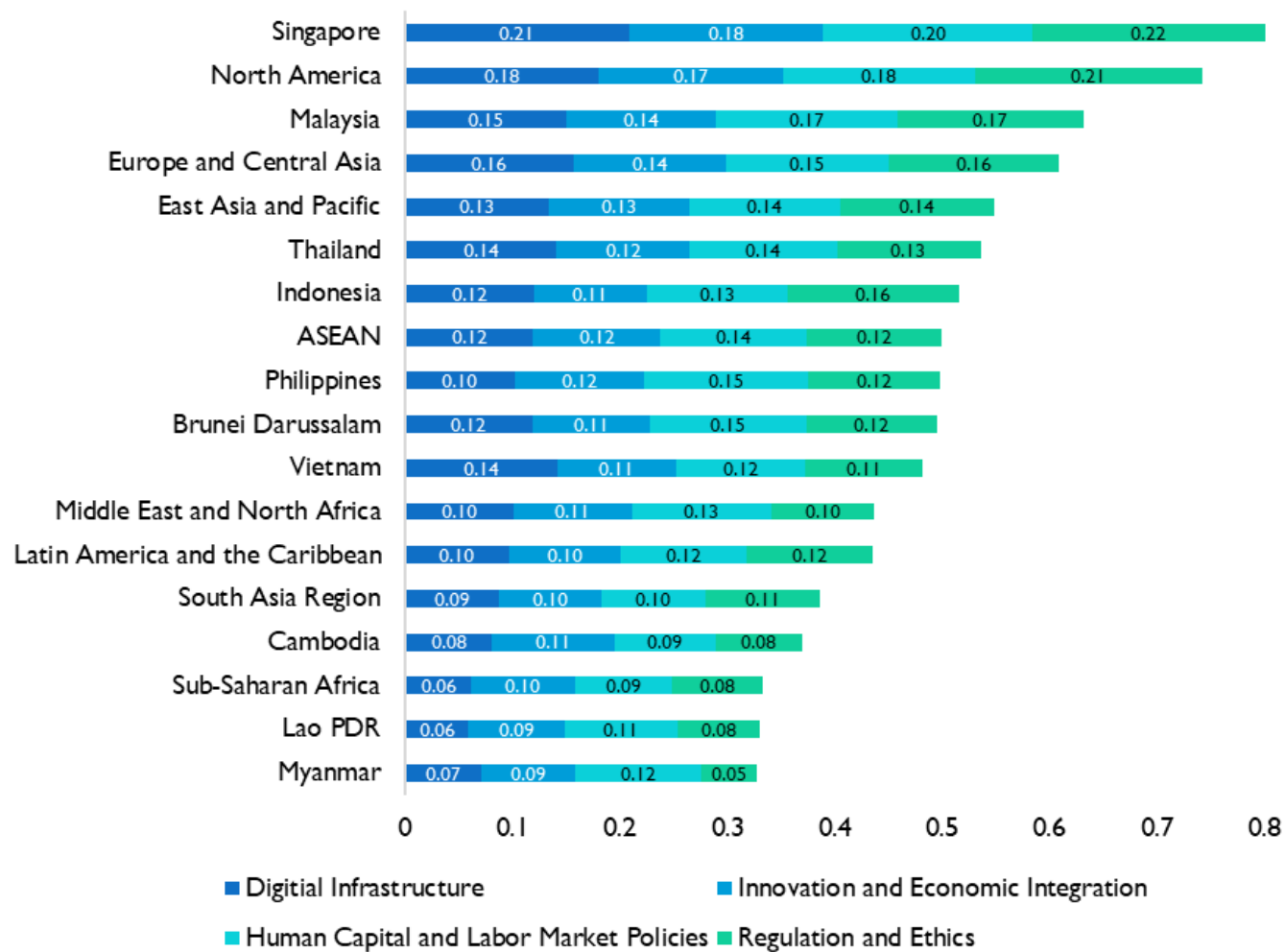- ■ Malaysia
- ■ Viet Nam
- ■ Cambodia
- ■ Lao People's Democratic Republic

Growth of East and Southeast Asian digital services, non-digital commercial services, and merchandise exports in 2005-24

- ── Digitally delivered services exports
- ── Merchandise exports
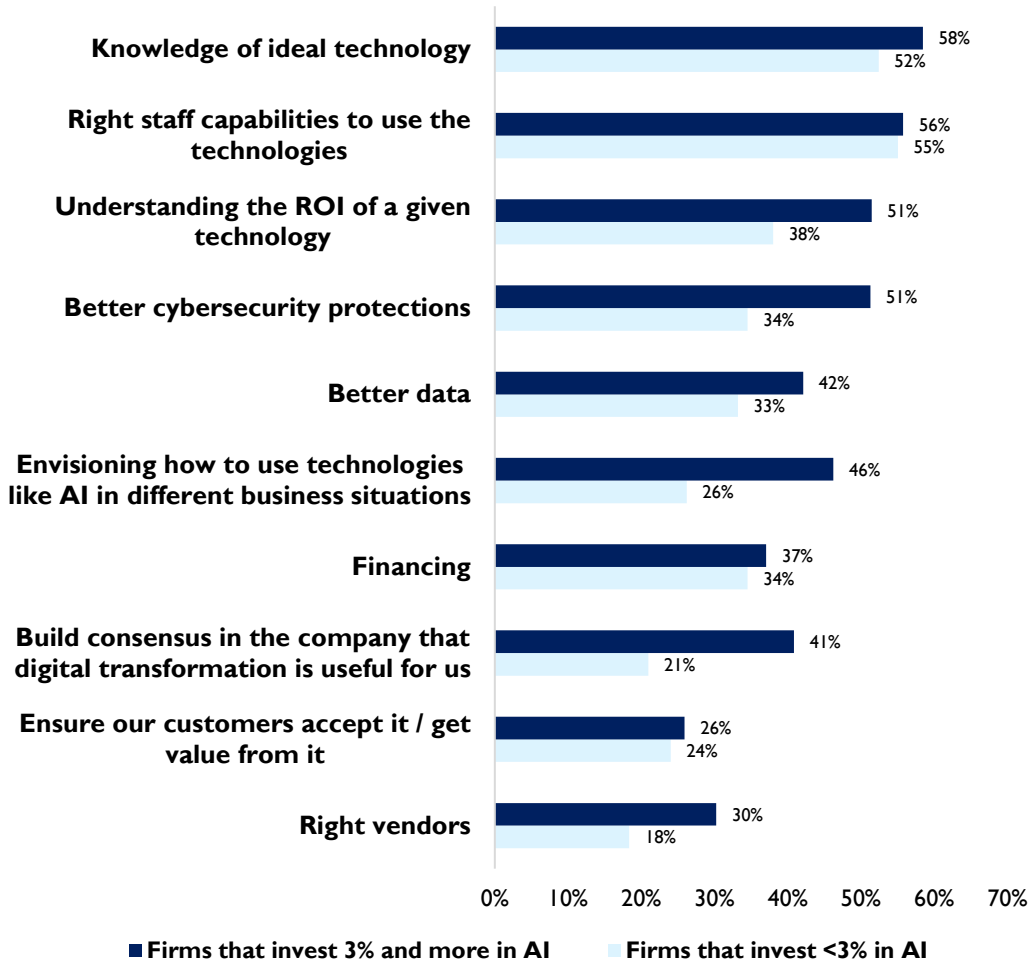- ── Non-digital commercial services
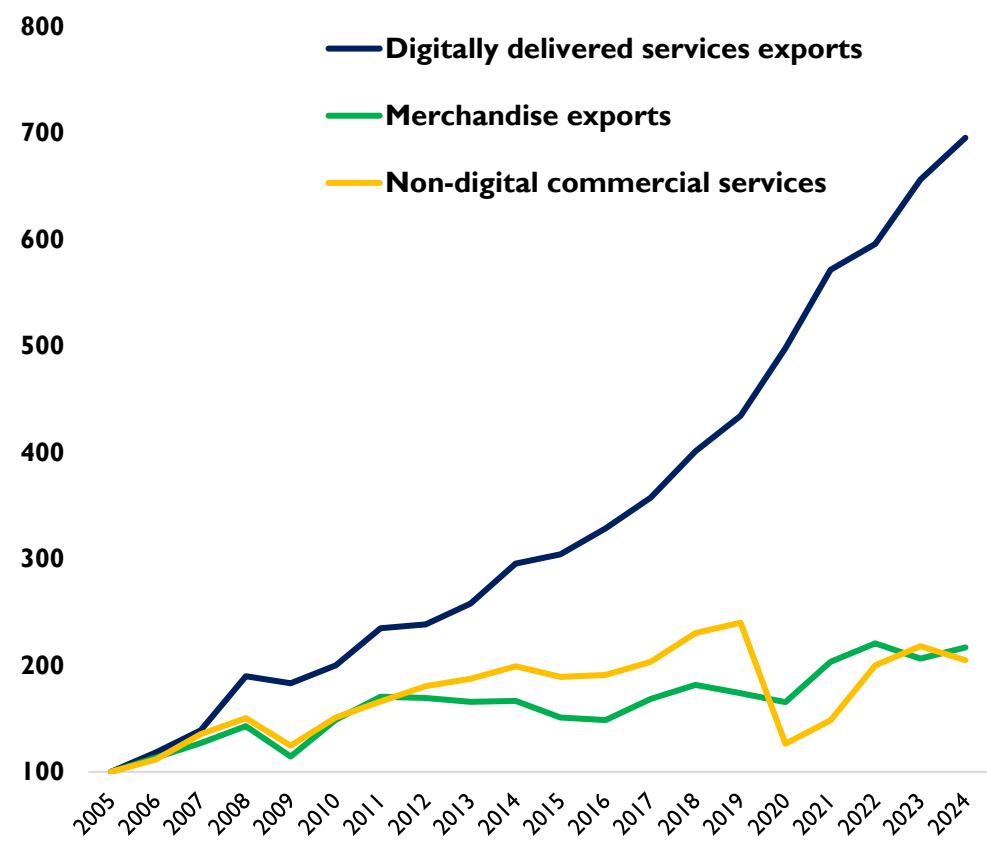
ASEAN AI Policy readiness

Singapore and Malaysia outperform on global AI indices, but major disparities remain; firms need human capital, cybersecurity, understanding of use cases to leverage AI
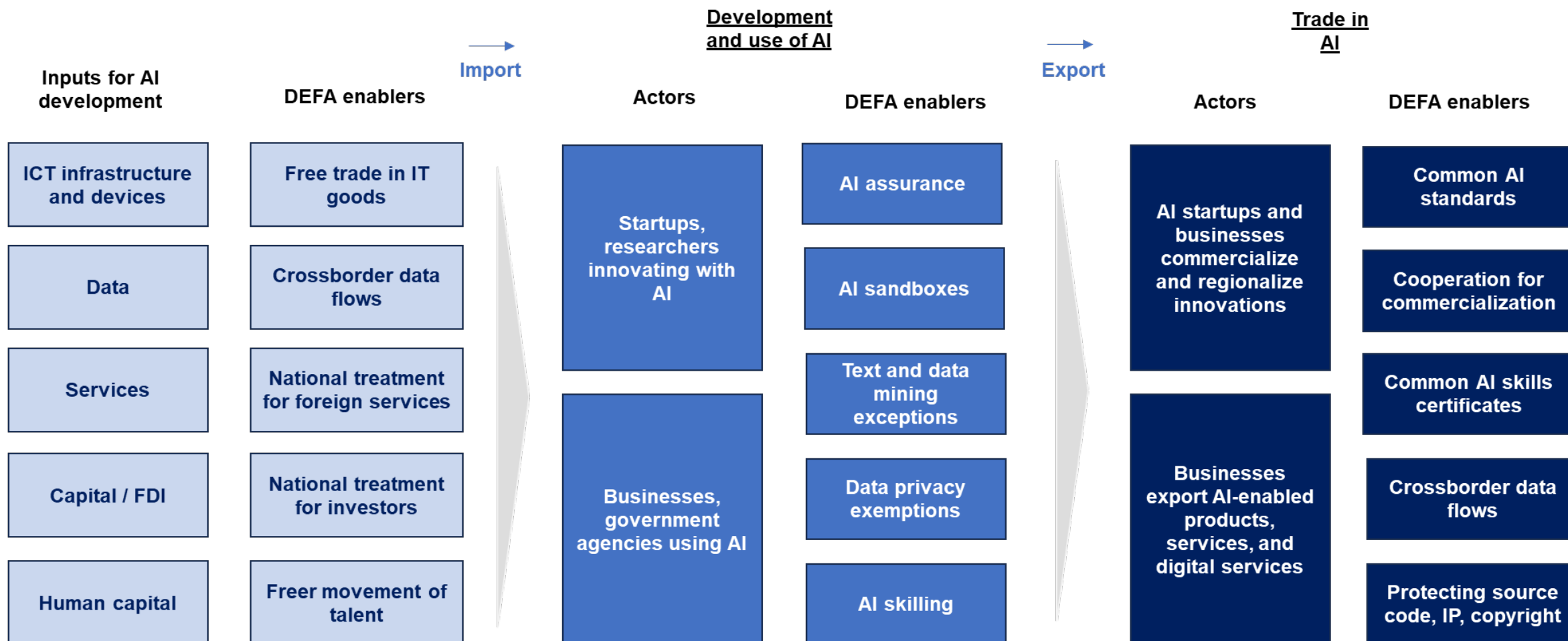
IMF AI Preparedness Index, ASEAN economies in a comparative perspective (max. 1)

Country/Region	Digital Infrastructure	Innovation and Economic Integration	Human Capital and Labor Market Policies	Regulation and Ethics
Singapore	0.21	0.18	0.20	0.22
North America	0.18	0.17	0.18	0.21
Malaysia	0.15	0.14	0.17	0.17
Europe and Central Asia	0.16	0.14	0.15	0.16
East Asia and Pacific	0.13	0.13	0.14	0.14
Thailand	0.14	0.12	0.14	0.13
Indonesia	0.12	0.11	0.13	0.16
ASEAN	0.12	0.12	0.14	0.12
Philippines	0.10	0.12	0.15	0.12
Brunei Darussalam	0.12	0.11	0.15	0.12
Vietnam	0.14	0.11	0.12	0.11
Middle East and North Africa	0.10	0.11	0.13	0.10
Latin America and the Caribbean	0.10	0.10	0.12	0.12
South Asia Region	0.09	0.10	0.10	0.11
Cambodia	0.08	0.11	0.09	0.08
Sub-Saharan Africa	0.06	0.10	0.09	0.08
Lao PDR	0.06	0.09	0.11	0.08
Myanmar	0.07	0.09	0.12	0.05

- Digitial Infrastructure
- Innovation and Economic Integration
- Human Capital and Labor Market Policies
- Regulation and Ethics

% of firms that need AI and digital capabilities

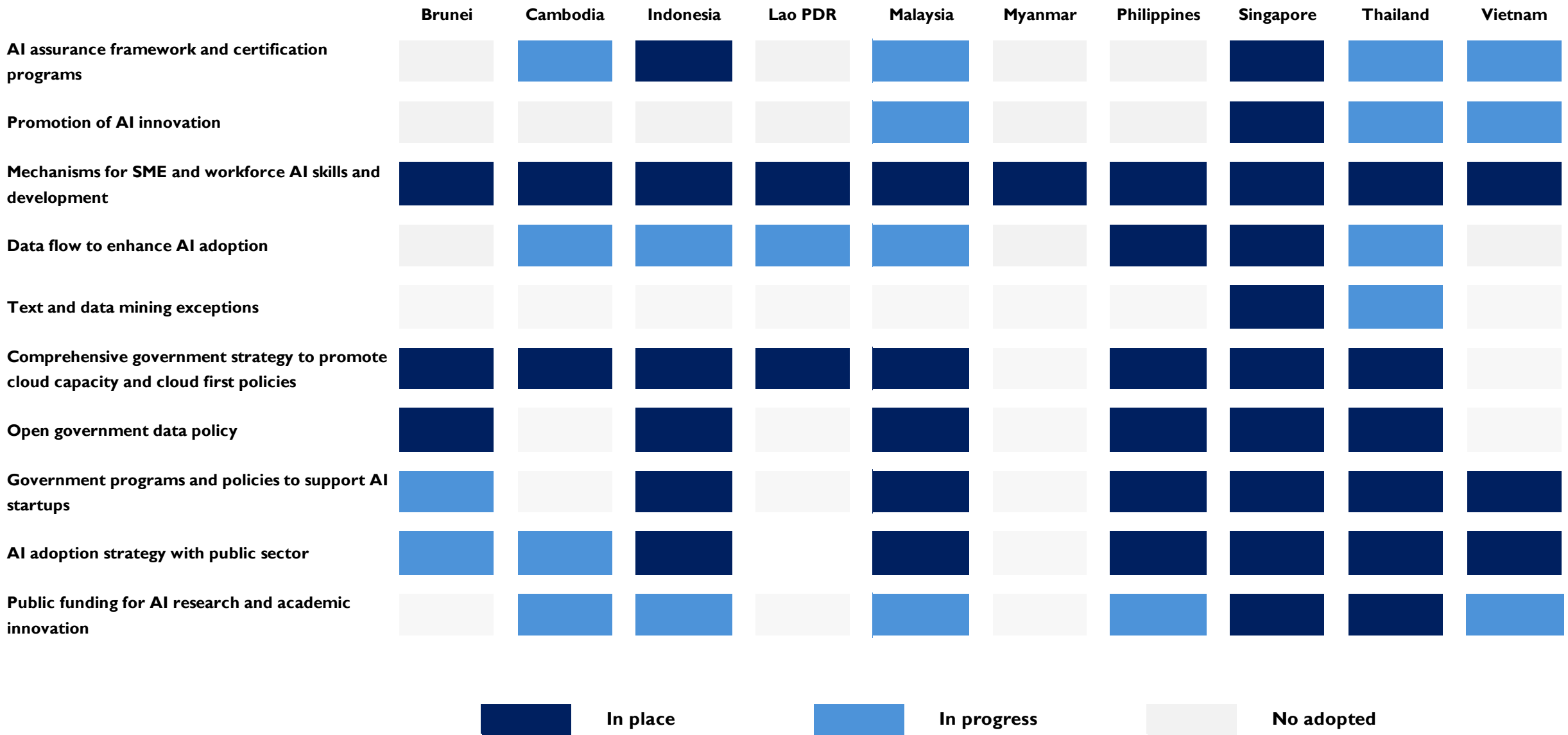| Capability	Firms that invest 3% and more in AI	Firms that invest <3% in AI
Knowledge of ideal technology	58%	52%
Right staff capabilities to use the technologies	56%	55%
Understanding the ROI of a given technology	51%	38%
Better cybersecurity protections	51%	34%
Better data	42%	33%
Envisioning how to use technologies like AI in different business situations	46%	26%
Financing	37%	34%
Build consensus in the company that digital transformation is useful for us	41%	21%
Ensure our customers accept it / get value from it	26%	24%
Right vendors	30%	18%

- Firms that invest 3% and more in AI
- Firms that invest <3% in AI

We can think of AI as a value chain: DEFA can promote "Trade in AI": AI inputs, aligning policies, and scaling AI startups

Development and use of AI

Trade in AI

→ Import

→ Export

Inputs for AI development	DEFA enablers	Actors	DEFA enablers	Actors	DEFA enablers
ICT infrastructure and devices	Free trade in IT goods	Startups, researchers innovating with AI	AI assurance	AI startups and businesses commercialize and regionalize innovations	Common AI standards
Data	Crossborder data flows		AI sandboxes		Cooperation for commercialization
Services	National treatment for foreign services		Text and data mining exceptions		Common AI skills certificates
Capital / FDI	National treatment for investors	Businesses, government agencies using AI	Data privacy exemptions	Businesses export AI-enabled products, services, and digital services	Crossborder data flows
Human capital	Freer movement of talent		AI skilling		Protecting source code, IP, copyright

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Lots of AI FDI in place: Global tech giants are betting big on ASEAN AI, with >$40 billion invested

Company	Amount invested (USD)	Economy	Investment focus	Users
Amazon AWS	$8.9 billion over 2024-28	Singapore	Cloud infrastructure, flagship AI program	Public sector, enterprises (Grab, MPA, Singlife), community AI skills
Amazon AWS	$5 billion over 15 years	Thailand	New AWS Region, cloud infrastructure, reskilling	Developers, startups, public sector, students, MSMEs
Google	$2 billion over 2024-30	Malaysia	Data center + Google Cloud region; AI literacy & sovereign cloud services	MSMEs, public sector, students, developers
Google	$1 billion	Thailand	Data center + Cloud region in Chonburi/Bangkok	Enterprises, startups, government agencies, fintech
Intel Corp Manufacturing	$7 billion	Malaysia	AI/hardware infrastructure, semiconductors	Regional manufacturing workforce; supply chain companies
Microsoft	$2.2 billion over 2024-28	Malaysia	Cloud + AI infrastructure, National Innovation Center, skilling 200,000 in AI and digital skills	Developers, SMEs, government, and the security sector
Microsoft	$1.7 billion over 2024-28	Indonesia	Cloud + AI infrastructure, skilling 840,000 in AI, developer support	Workforce, development communities, government (Golden Indonesia 2045)
Open AI	$1 billion	Singapore	APAC hub; language/AI resource development; enterprise piloting	AI Singapore; Grab staff and operations
Oracle	$6.5 billion announced Oct 2024	Malaysia	Public cloud region, AI and analytics capabilities	Government, financial services, airlines, hospitality
Qualcomm	Amount not disclosed	Vietnam	AI research and development center	AI researchers, startups, tech firms
YTL Power + NVIDIA	$4.3 billion	Malaysia	AI supercomputer + green data center park	Research institutes, enterprises, and government

ASEAN has the building blocks for an AI economy, but uneven adoption limits scalability

	Brunei	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
AI assurance framework and certification programs	No adopted	In progress	In place	No adopted	In progress	No adopted	No adopted	In place	In progress	In progress
Promotion of AI innovation	No adopted	No adopted	No adopted	No adopted	In progress	No adopted	No adopted	In place	In progress	In progress
Mechanisms for SME and workforce AI skills and development	In place	In place	In place	In place	In place	In place	In place	In place	In place	In place
Data flow to enhance AI adoption	No adopted	In progress	In progress	In progress	In progress	No adopted	In place	In place	In progress	No adopted
Text and data mining exceptions	No adopted	No adopted	No adopted	No adopted	No adopted	No adopted	No adopted	In place	In progress	No adopted
Comprehensive government strategy to promote cloud capacity and cloud first policies	In place	In place	In place	In place	In place	No adopted	In place	In place	In place	No adopted
Open government data policy	In place	No adopted	In place	No adopted	In place	No adopted	In place	In place	In place	No adopted
Government programs and policies to support AI startups	In progress	No adopted	In place	No adopted	In place	No adopted	In place	In place	In place	In place
AI adoption strategy with public sector	In progress	In progress	In place		In place	No adopted	In place	In place	In place	In place
Public funding for AI research and academic innovation	No adopted	In progress	In progress	No adopted	In progress	No adopted	In progress	In place	In place	In progress

Legend: In place (dark navy) | In progress (blue) | No adopted (light gray)

Heading to 2027 Singapore ASEAN Chairmanship: DEFA AI Playbook for the era of Agentic AI

Responsible Use of AI	Innovation: Data and Copyright rules	Inclusion: AI Skilling	Internationalization: Build a regional AI ecosystem
• **Promote** firms' adoption of **international standards** like ISO/IEC 23894 (for AI risk management) and ISO/IEC 42001 (for AI Management Systems), and certification. • **Endorse assurance mechanisms** and scaling of Singapore's Global AI Assurance Sandbox and AI Verify • **Promote corporate governance** of AI, including red-teaming	• Build **national and regional AI and data privacy sandboxes** and regulatory testbeds • Promote **text and data mining exemptions in copyright laws** • Promote **exemptions to data privacy laws** to promote data for AI development • Make **non-sensitive** public and private **datasets available** for AI R&D • Promote fluid cross-border data flows and **open government** data policies • **Promote** regional funding for **AI research**	• Promote common **AI skilling and certifications** • Mutual **recognition of AI-related skills credentials** • **Skill public servants** to adopt AI and cloud and consider AI use case	• Promote common, interoperable certification of firms' **adoption of international AI standards**. • Develop regional **data-sharing platforms** to enable interoperable AI systems. • Promote **market access** and **source code protection** for AI-driven firms. • Adopt and **enforce digital policies** that underpin AI use, such as fair use copyright rules, robust cybersecurity policies and practices, and data privacy regulations