The National Artificial Intelligence (AI) Strategy for the Philippines

AI towards Inclusive, Sustainable, and Resilient Development

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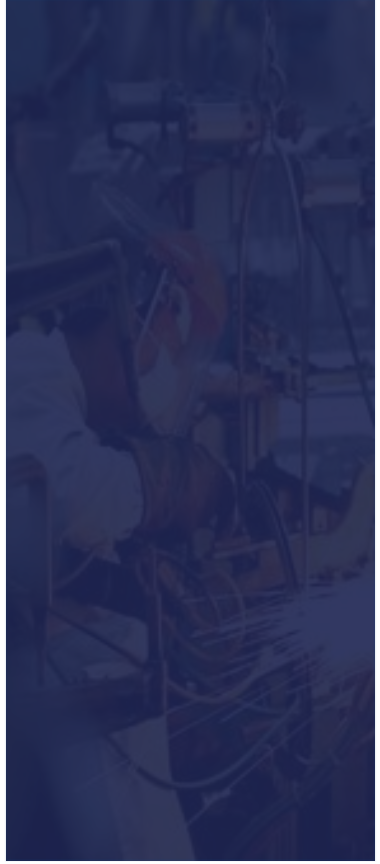

Many fear that while AI brings potential opportunities it can also pose threats to the workforce

- Many jobs, especially low-level and routine-driven ones, will be taken over by machines
- Number of jobs at risk with physical, routinary and predictable environment *(Muraje, 2017)*
  - Agriculture: 6 million jobs
  - Retail: 3.4 million jobs
  - **Manufacturing 2.4 million jobs (61% of total manufacturing employment)**

- How will the adoption of AI affect our industries, our people and their jobs?
- How will this help in our economic recovery process especially as we enter the new normal and the post-pandemic future?
- How is the government preparing for the disruption that could arise from adopting AI?

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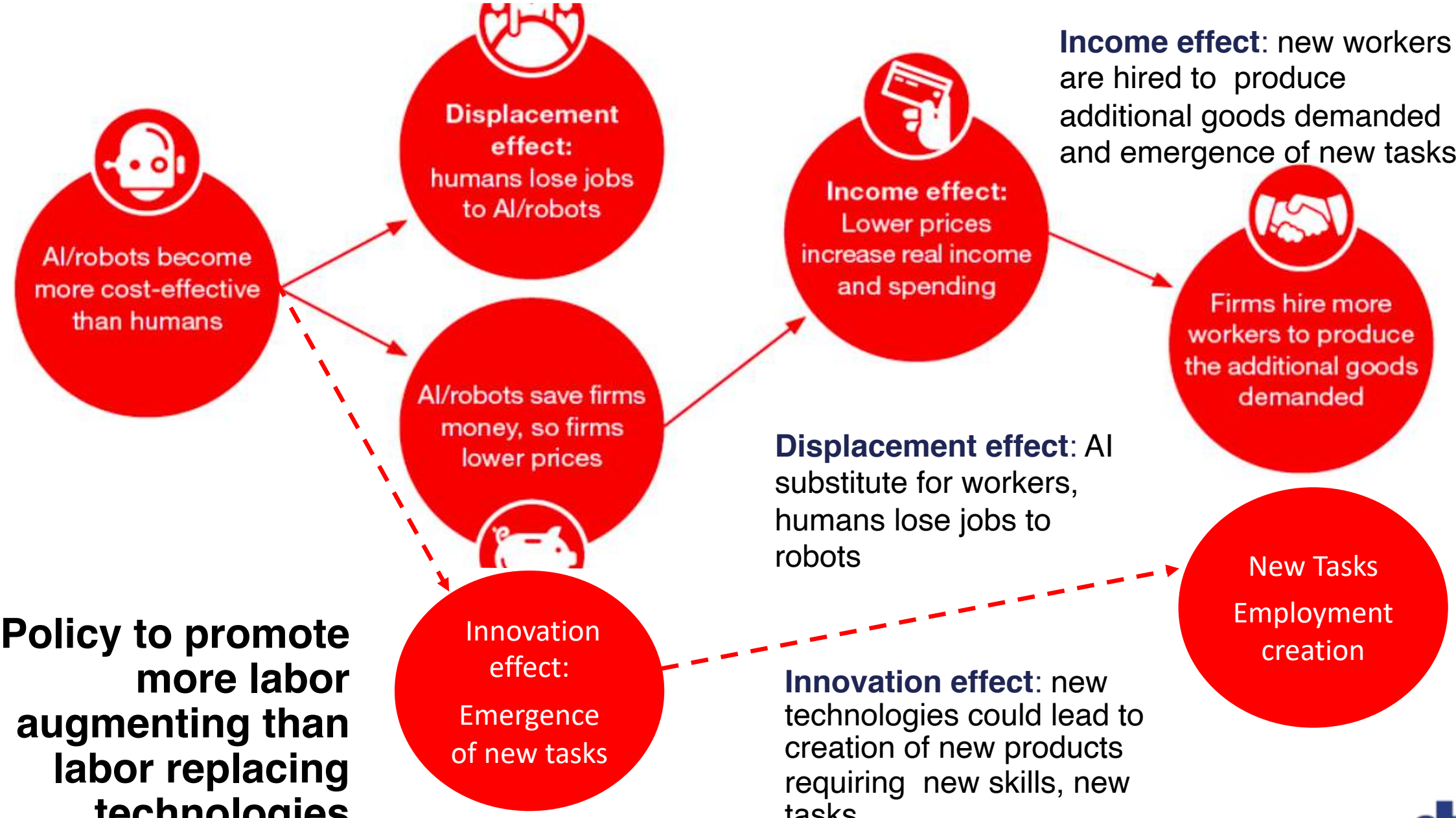


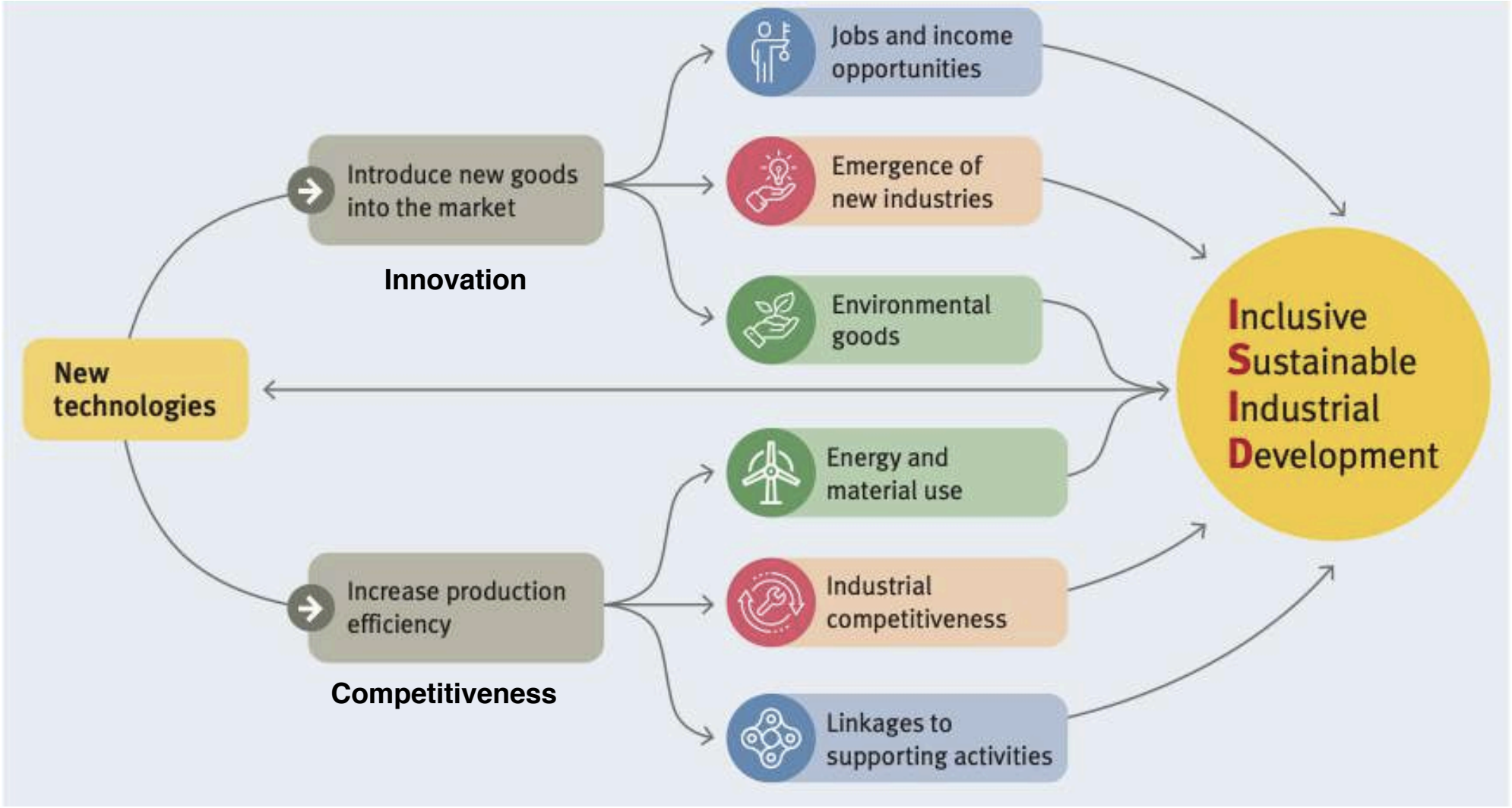
Income effect: new workers are hired to produce additional goods demanded and emergence of new tasks

Displacement effect: AI substitute for workers, humans lose jobs to robots

Innovation effect: new technologies could lead to creation of new products requiring new skills, new tasks

Policy to promote more labor augmenting than labor replacing technologies

New technologies like AI can drive inclusive, resilient, inclusive, sustainable, and industrial development for the Philippines



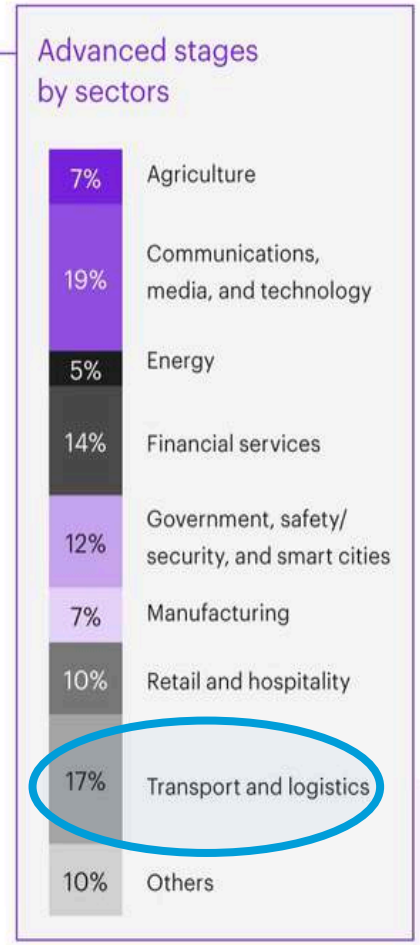
Source: UNIDO Industrial Development Report (2020)

AI adoption still in its infancy stages in SE Asian countries

Stages of AI (by % of respondents, region, or country)

	Stage 1. Not interested in investing in AI	Stage 2. Keen to invest/ developing AI strategy	Stage 3. Piloting initiatives within discrete activities	Stage 4. Scaling initiatives across discrete activities	Stage 5. End-to-end scaled implementation of AI
		Early stages: 83% of ASEAN		Advanced stages: 15% of ASEAN	
Southeast Asian nations	2%	27%	56%	9%	6%
Singapore	2%	22%	58%	12%	7%
Malaysia	–	26%	60%	9%	6%
Indonesia	2%	28%	57%	9%	4%
Thailand	5%	28%	55%	8%	5%
Philippines	7%	26%	54%	4%	9%
Vietnam	–	36%	49%	11%	4%

Note: Percentages may not resolve because of rounding.



83%

of the region is still in the early stages of AI adoption: no interest in investing in technology, in the process of developing an AI strategy, piloting initiatives in the field.

17%

TRANSPORT & LOGISTICS in advanced stage of AI adoption

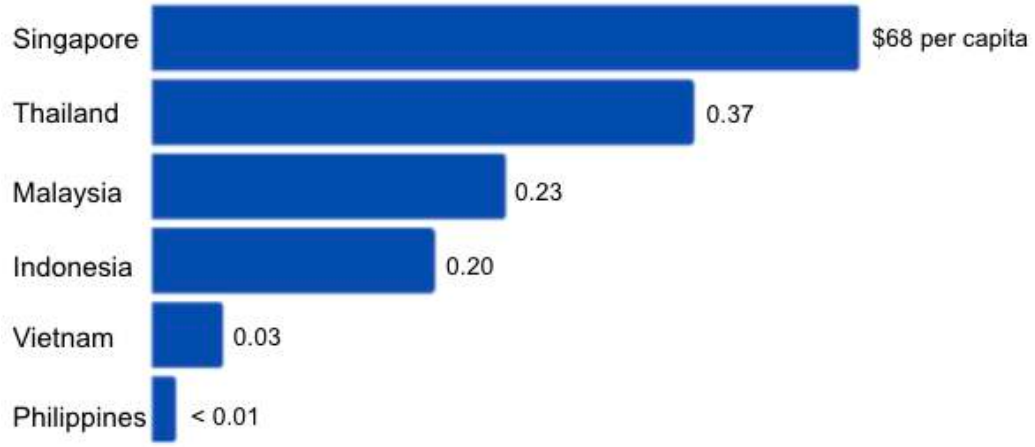
Manufacturing, retail & hospitality, healthcare

among those that would benefit the most from growth of AI in the region

Source: Kearney Analytics

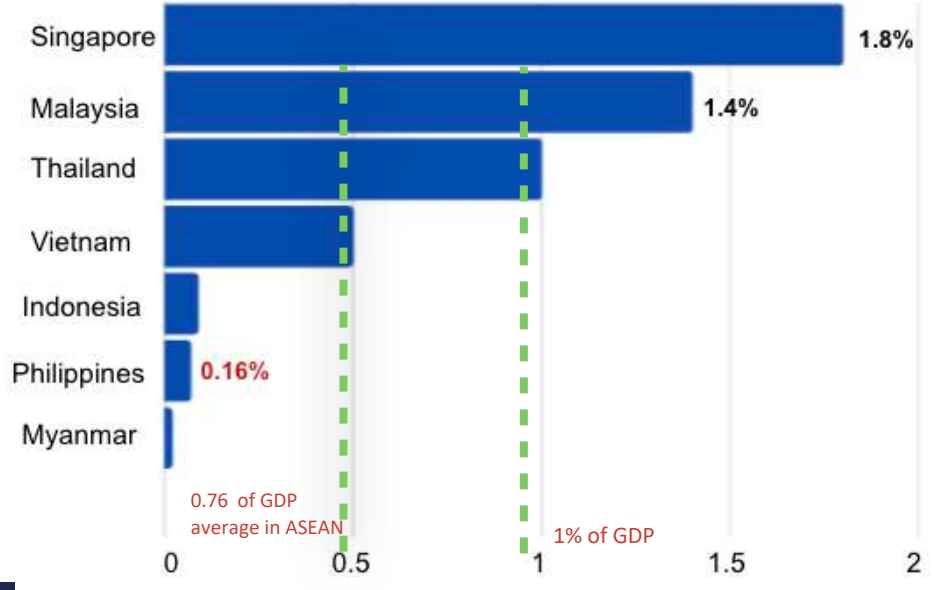
Investments in AI solutions in SEA lag behind more advanced countries

Per Capita investment in SE Asia US $155, China $21, SG highest in the region



Data Source: Pitchbook: Kearney Analysis 2020.

PH Gross Expenditure on R&D below UN- recommended 1%, below ASEAN average of 0.76%



Data Source: World Bank Data Base. 2020.

Internet quality needs to catch up…

Mobile Internet Speed: PH mobile download speed (Oct 2020): **17.83** Mbps global average: **39.18** Mbps

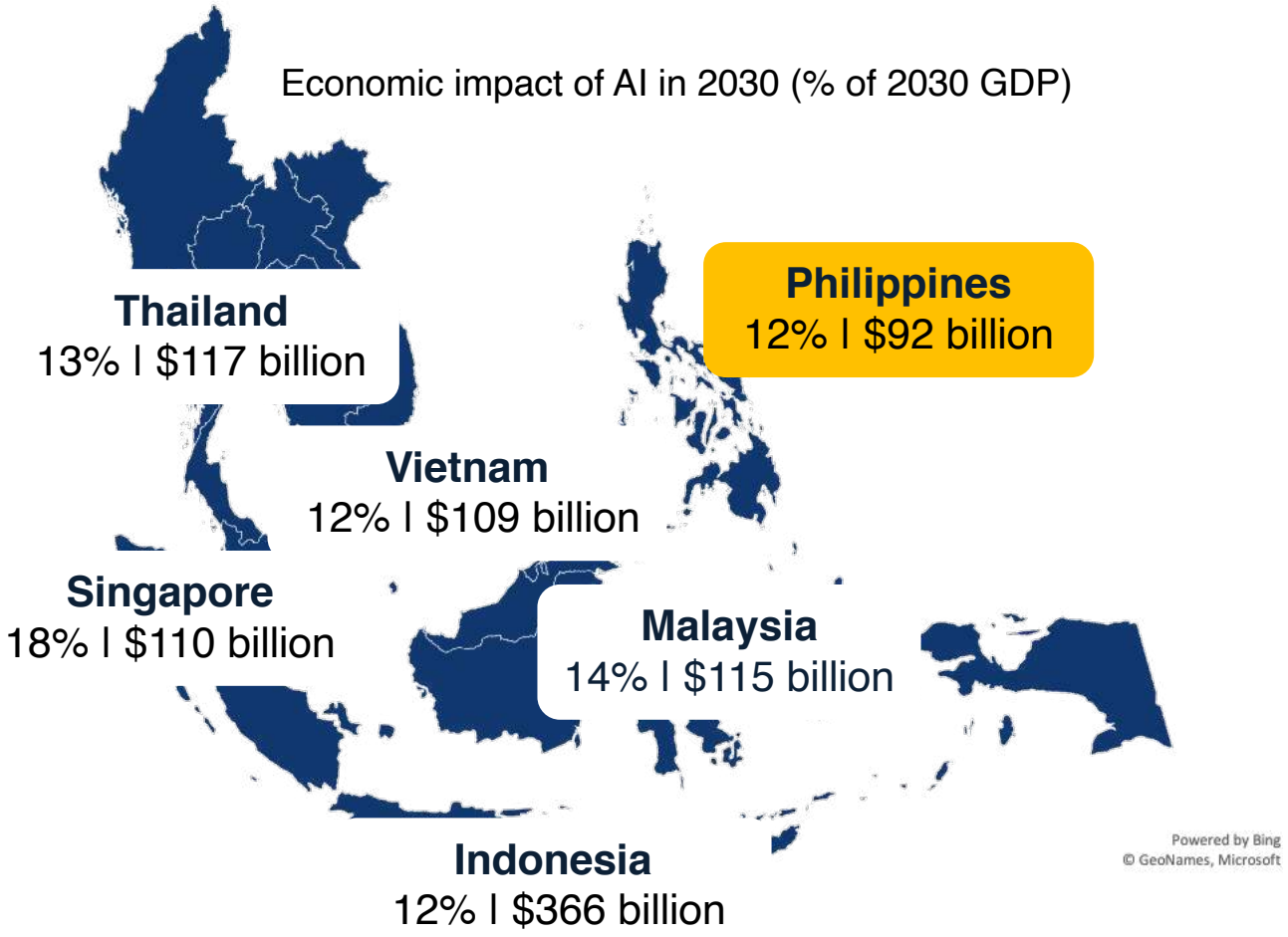
Fixed Broadband Speed: PH fixed broadband download speed (Oct 2020): **27.07** Mbps global average: **87.84** Mbps

Data Source: Ookla Speedtest Global Index, October 2020.

111th/139 Countries
Mobile Internet Speed

107th/176 Countries
Fixed Broadband Speed

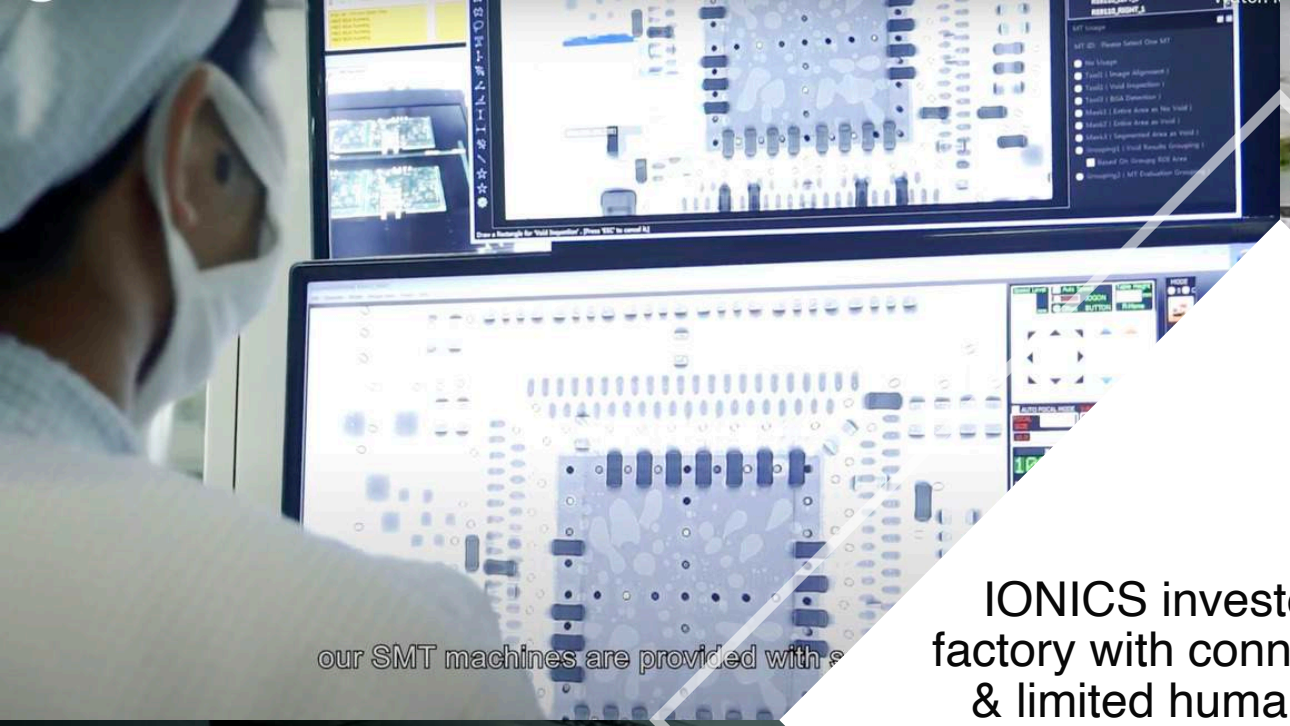
AI technologies can unlock $1 trillion to Southeast Asia's GDP; $92B to PH GDP



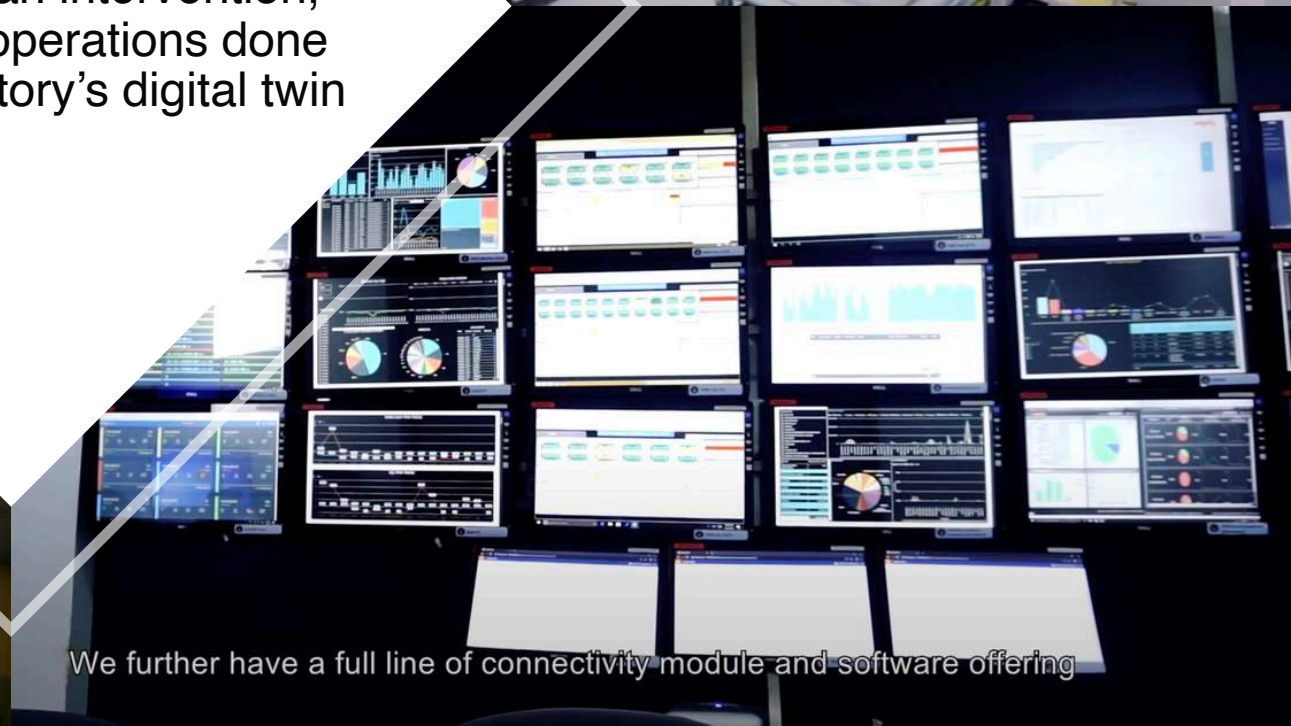
Source: EDBI and Kearney (2020)

50+ tech startups in the Philippines are using AI as a core technology in their business model

Applications cover a wide range of industries including fintech, e-commerce, advertising, healthcare, and IoT

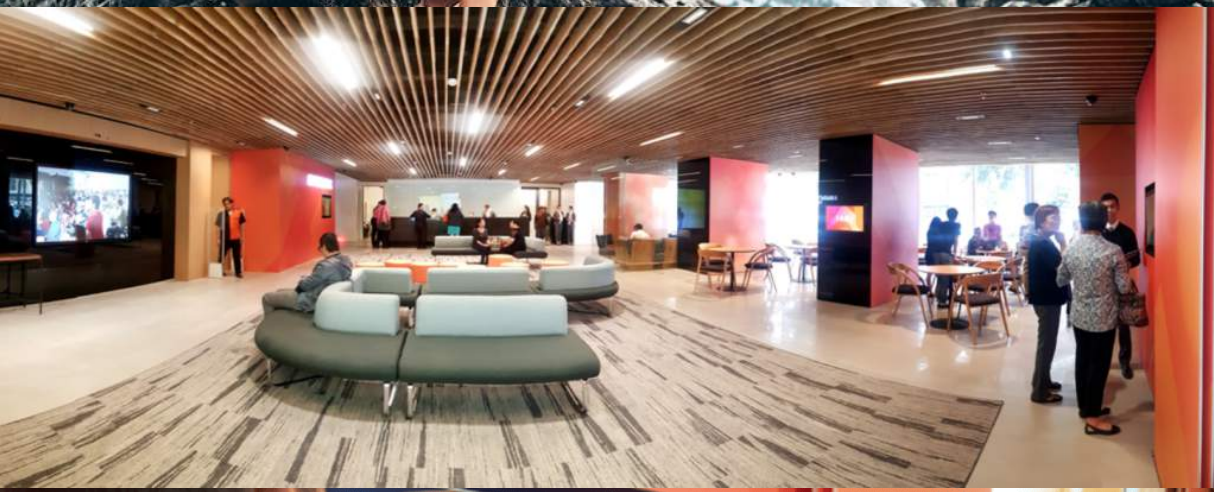


IONICS invested in a smart factory with connected machines & limited human intervention, monitoring of operations done through the factory's digital twin



Union Bank's i2i: Island to island, institution to institution, individual to individual open finance platform

Helped expedite distribution of DSWD's Social Amelioration Funds to beneficiaries



Union Bank's UBX and ARK: sparking innovation

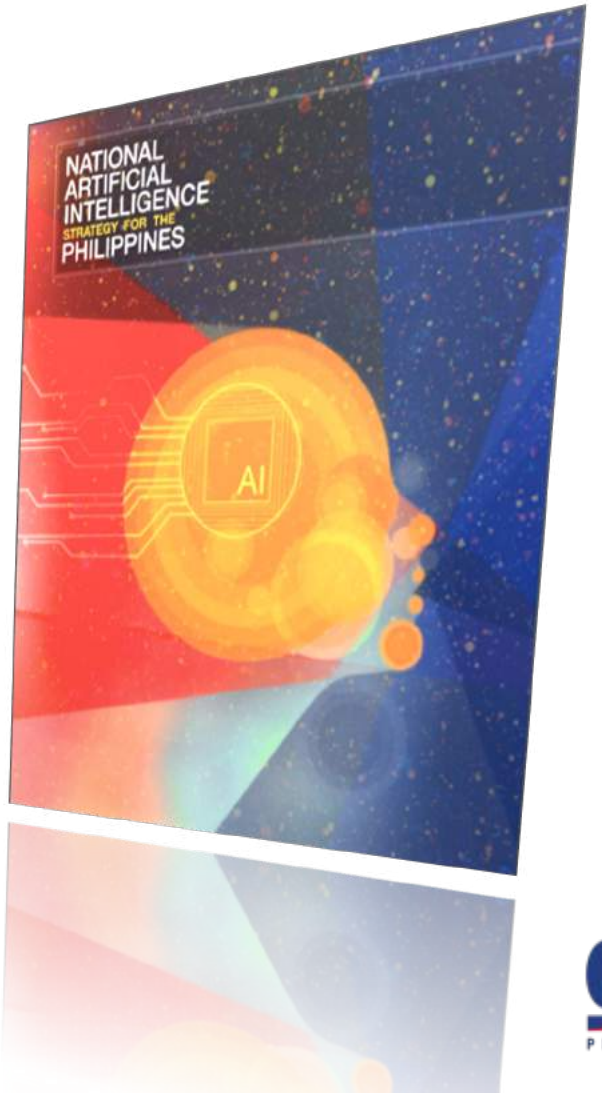
- no tellers, no long lines, paperless
- AR & VR experiences for home & auto loan, screens instead of posters for marketing zones, tablets instead of paper for transaction zones, SMS or email receipt instead of paper
- Virtual teller machines, standalone terminals, tablets, touch screens, TV, VR goggles
- Did not remove branches, tellers were reskilled to became brand ambassadors
- ARK 2.0: smart branch with IoT enabled devices, leverage on 5G, support smart communities

Philippines as a Center of Excellence in Artificial Intelligence

National AI Strategy for the Philippines focuses on how AI can be used to uplift he lives of our people, improve the productivity of our enterprises, and enhance the competitiveness of our economy.

Specific objectives:

1. To **maintain the regional and global competitiveness** of local industries noting that AI is one of the biggest drivers of innovation for enterprises.
2. To identify **key areas (in both R&D and technology application) for investing** both time and resources of government, industry, and society.
3. To recommend ways for effectively **fostering a triple-helix (Government-Industry-Academe) R&D collaboration**, essential to national development.
4. To suggest approaches for **preparing the future workforce** for the jobs of the future.
5. To **attract the biggest industries** to set shop in the country, and thus generating **more jobs for the Filipino people**.



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Framework of the National AI Strategy

2 PILLARS → **4 STRATEGIC DIMENSIONS** → **7 STRATEGIC IMPERATIVES** **42 STRATEGIC TASKS**

1 IMPLEMENTATION

reflects the operationalization of artificial intelligence by practitioners in business, government and communities.

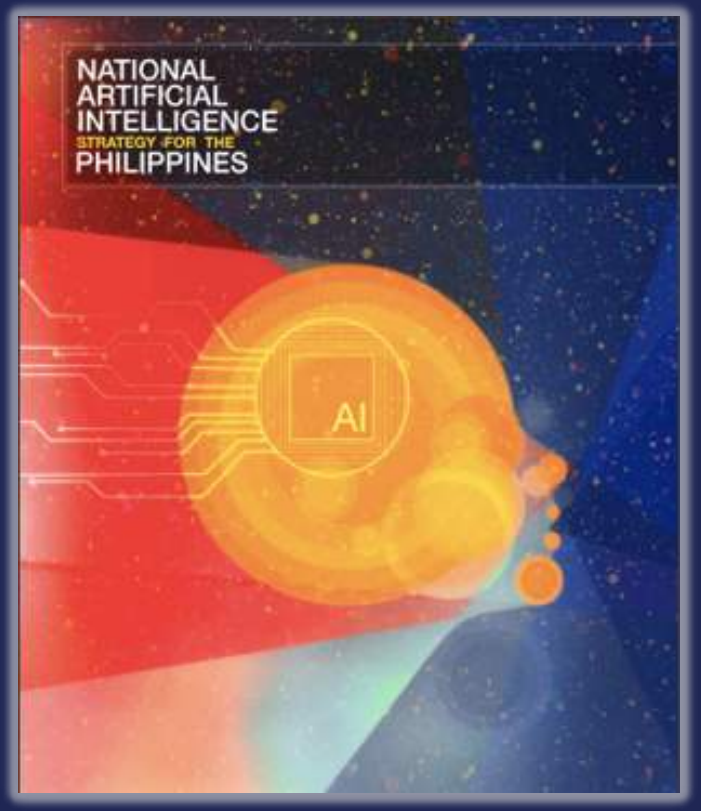
- **Digitization & Infrastructure**
  - 1. Build a robust networked environment.
  - 2. Improve data access and data value extraction.
- **Workforce Development**
  - 3. Nurture future AI talents.
  - 4. Upskill and reskill workforce.
- **Regulation**
  - 5. Develop an AI Economy Conscience

2 INNOVATION

reflects technology breakthroughs and advancements in methodology that are indicative of greater capacity for artificial intelligence in the future.

- **Research + Development**
  - 6. Accelerate innovation with AI.
  - 7. Master and push the boundaries of AI.

Key Recommendations (Seven Imperatives):



1. Build robust connected and networked environment: DICT, DTI, DILG, CHED, DOST

2. Improve data access and data value extraction, DICT, DTI, CHED, DOST

3. Master and push the boundaries of AI: CHED, DOST

4. Accelerate Innovation with AI: DICT, DTI, CHED, DOST, DOLE

5. Transform education and nurture future AI talents: DTI, DOST

6. Upskill and reskill the workforce: DICT, DTI, CHED, DepEd, TESDA, DOST, DOLE, NEDA

7.Build an AI Ecosystem “Conscience”: DICT, DTI, DOLE, DOST, PCC
Ensure ethics, privacy, and security

What have we learned from the Pandemic to guide us in our recovery?

- Digital Technologies & Innovation played a crucial role in ensuring a quick reaction to the crisis
- Race for survival will intensify and spark innovation
- More resilient firms have thrived during the crisis

- Rapid tailoring of production & supply systems to changing consumer behavior
  - increase agility in production & supply systems enabled by advanced technology
- Adoption of new ways of working to increase industry resilience
  - Agile ways of working reach their full potential if we have a skilled, I4.0 ready workforce
- Shared responsibility & collaboration between government and private sector to address social & environmental challenges

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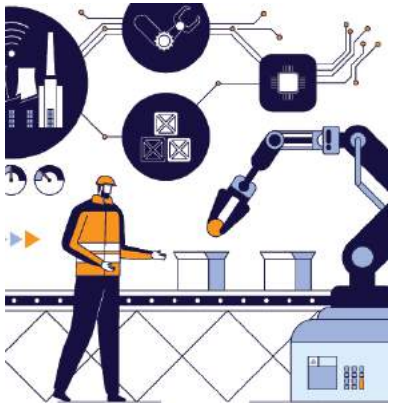
With Industry 4.0, industries can be made more efficient & scalable, leapfrog to inclusive, resilient, & sustainable industrial development



- New technologies like AI are not here to destroy jobs or replace humans but to create new jobs and change what work looks like, augment human intelligence and skills and make our workplaces safer

- We keep the people at the center of our AI plans with focus on inclusive growth

THANK YOU!

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