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ADB

# 9th International Skills Forum Reimagining Education and Skills Development for a New Normal

23 August 2021 • 1–5 p.m. (Manila time)  
24 to 27 August 2021 • 2–6 p.m. (Manila time)



# Future of Skills and Jobs in the Context of Technological Disruption

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# Starting Premise: The future is already here!

- ❖ Disruptive technologies fast becoming mainstream
- ❖ Newer or improved technologies emerging at an even greater speed
- ❖ *Preparing skills for jobs with new technologies needs:*
  - *Speed of response*
  - *Continuous agility*
  - *Adaptability to market forces*

***QUESTION IS NO LONGER IF, BUT HOW TO PREPARE***

**Artificial  
Intelligence**

**Robotics**

**Genomics**

**Machine  
Learning**

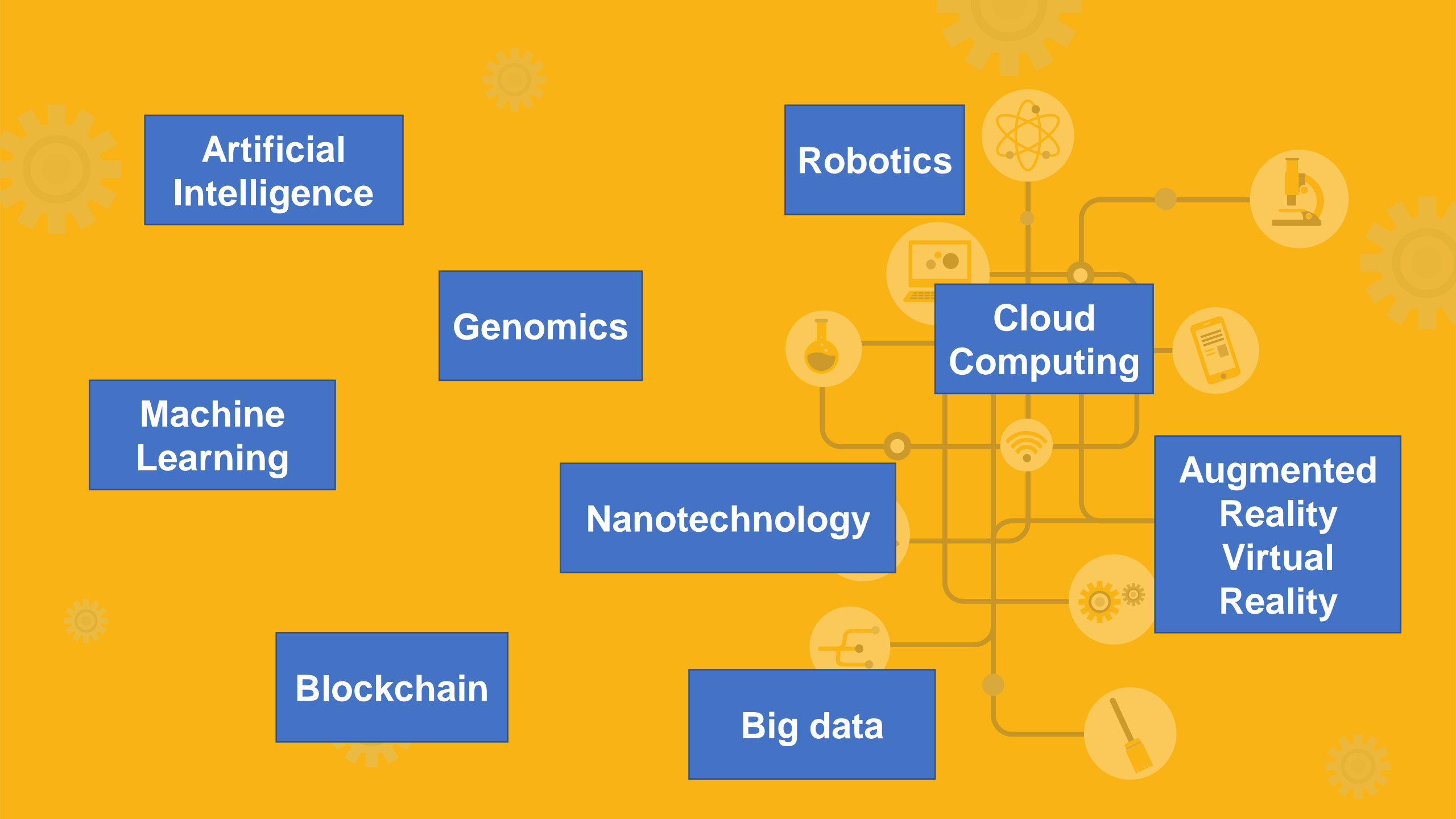
**Cloud  
Computing**

**Nanotechnology**

**Augmented  
Reality  
Virtual  
Reality**

**Blockchain**

**Big data**



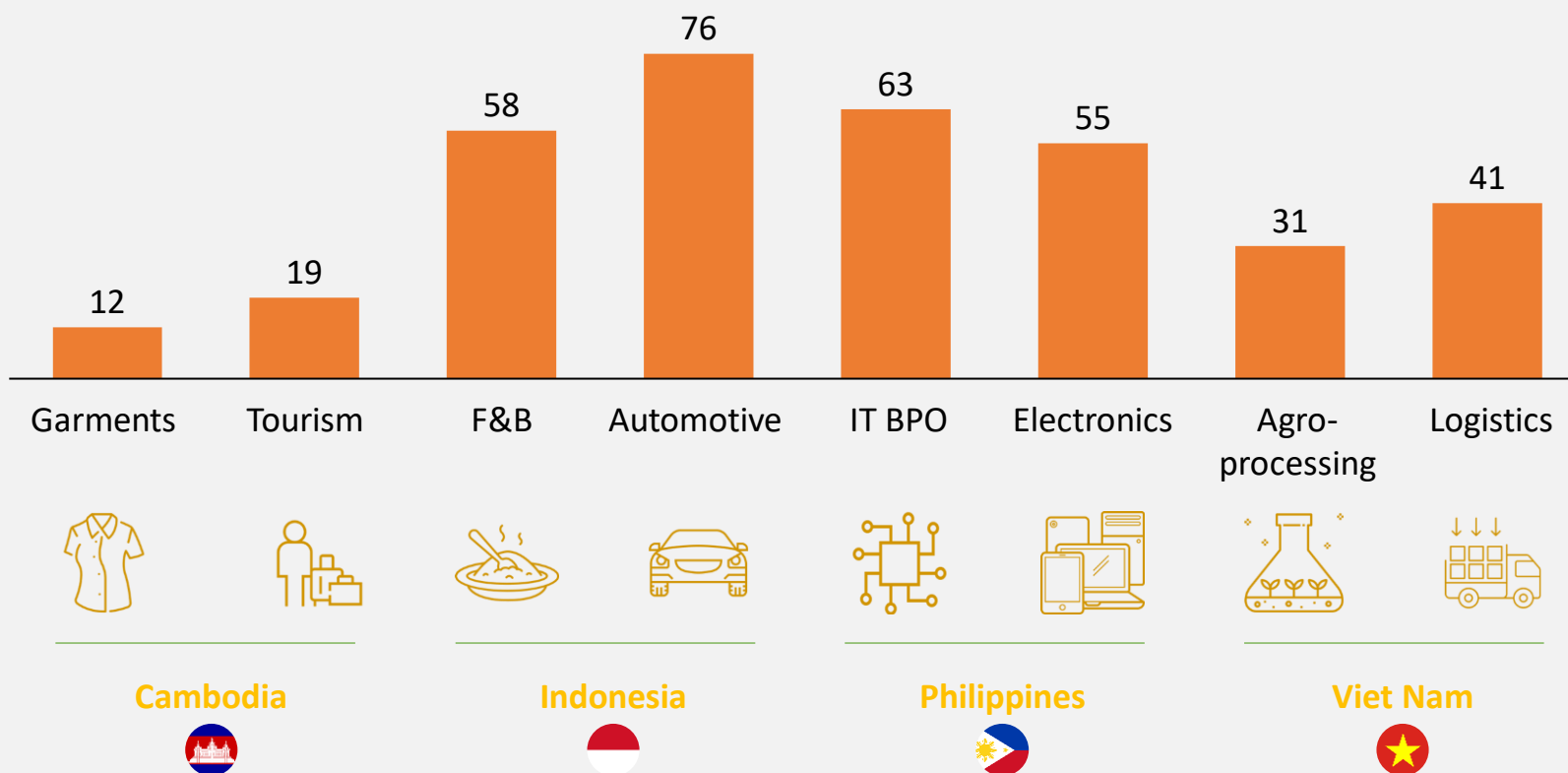
# Readiness for fourth industrial revolution a critical topic for the future of jobs

ADB Study on implications of the fourth industrial revolution on jobs, skills, tasks and readiness of education and training

- 4 ASEAN countries covering 8 sectors in manufacturing, processing and services industries – completed.
- 3 Central West Asia countries covering 6 sectors – ongoing

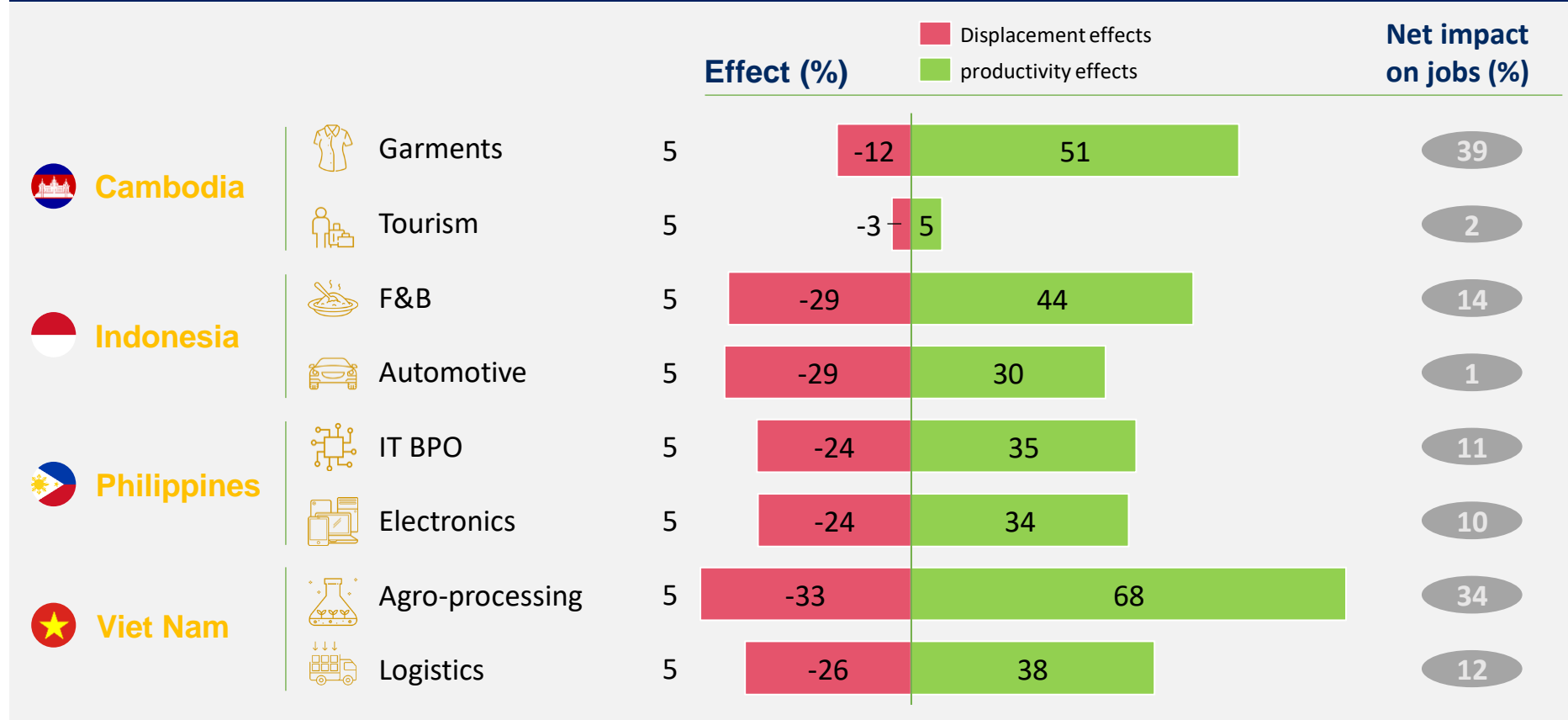
# ADB Study Takeaway 1: Productivity increase from 4IR could be significant

Percent of respondents who believe productivity impact may be greater than 25% within 5 years (2018-23)



# ADB Study Take-Away 2: Net impact of 4IR on jobs can be positive

**Modelled impact of 4IR on number of jobs between 2018 and 2030 -  
% of jobs impacted in 2030**















Note: Figures may not sum due to rounding

# ADB Study Take away 3:

## Employers believe 4IR will lead to shift from routine to non-routine and analytical work

Employers' expected impact of I4.0 on working time spent on different tasks between 2018 and 2025<sup>1</sup>

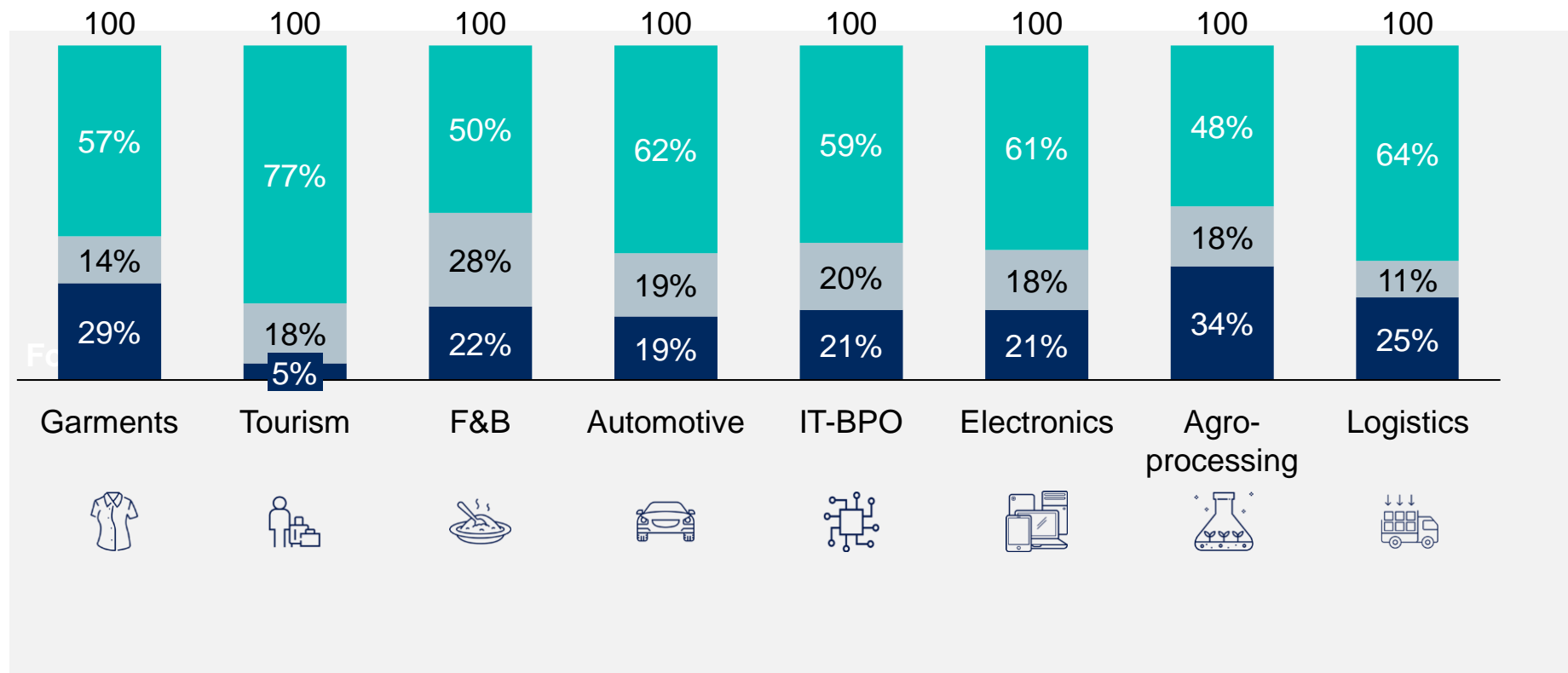
	Sector	Analytical	Non-routine inter-personal	Non-routine physical	Routine inter-personal	Routine physical
 <b>Cambodia</b>	 Garments	90	60	53	35	-33
	 Tourism	53	56	17	-28	-21
 <b>Indonesia</b>	 F&B	11	-6	-27	-52	-68
	 Automotive	24	-17	-41	-48	-76
 <b>Philippines</b>	 IT-BPO	25	22	15	-35	-31
	 Electronics	49	10	15	-24	-48
 <b>Viet Nam</b>	 Agro-processing	33	-7	-20	-33	-77
	 Logistics	27	14	-5	-45	-74



## ADB Study Take away 4: On-the-Job Training key to meet additional skill demand for 4IR

■ On-the-job training ■ Short professional training ■ Longer formal training

### Additional person trainings<sup>1</sup> to meet skills demand for 4IR by 2030, by training channel Percent<sup>2</sup>



Note: Figures include rounding adjustments

1 One-person training refers to training **one worker**, in **one skill** from the level required by his occupation's skill profile in 2018 to the relevant level given by the skills profile in 2030.





2 Short professional training is less than six months; longer formal training leads to degree or certification

SOURCES: Local industry data and AlphaBeta analysis

## ADB Study Take away 5:

### Gap in perception: training institutions and employers

**Perception of graduates' preparedness and skills – Percentage of Survey Respondents who agree or strongly agree**

	Cambodia 		Indonesia 		Philippines 		Viet Nam 	
	Training institutions	Employers <sup>1</sup>	Training institutions	Employers <sup>2</sup>	Training institutions	Employers <sup>3</sup>	Training institutions	Employers <sup>4</sup>
Graduates are adequately prepared for entry-level positions	63	15	96	32	90	55	80	38
Graduates have the appropriate “general” skills	88	8	92	39	90	57	80	53
Graduates have the appropriate “job-specific” skills	75	13	92	31	88	59	78	59

SOURCE: Training institution and employer surveys in Cambodia, Indonesia, Philippines, and Viet Nam

Access all the reports from ADB Study here : <https://www.adb.org/publications/benefits-industry-skills-development-southeast-asia>


# 4IR trends are already upon us

- 2.7 million industrial robots in operation in 2020 (2/3rds of new installations in Asia led by PRC; followed by Japan, Korea; also India and Thailand). *(World Robotics Report, 2020)*
- Global blockchain market to grow from \$ 3 billion in 2020 to \$ 39.7 b in 2025; Asia to gain substantial share. *(MarketsandMarkets, 2020)*
- E-commerce to double sales to reach \$ 2 trillion (2021-25), with Asia Pacific projected to record highest growth. *(Euromonitor International, 2021)*
- Private Equity EdTech investments grew from \$16.3 billion (2018), to \$ 18.6 billion (2019), to \$36.3 billion (2020). *(Metaari, 2021)*
- Global artificial intelligence (AI) market size at \$ 62 billion in 2020; set expand at CAGR of 40.2% (2021-2028). APAC to witness significant growth. *(Grand View Research, 2021)*

# ACCELERATING TRENDS

## MICRO JOBS SITES

- Small tasks, bit work
- Multiple jobs
- Global on-demand 24X7 workforce
- Amazon Mech Turk - 7 million members
- Gig economy worth put at \$347 b in 2021

Cloud based services   
App based financial transactions  
Technology as service

Smart Logistics   
Smart cities  
Water, energy and waste management with digital tools

Infrastructure predictive maintenance

500 million QR coded textbooks in India with digital content 

India nearly doubled its AI workforce between 2018 and 2019

Indonesia's Cyber Education Institute; universities to put 50% content online


## Customer Relationships

New Age Retail

AI for customer predictive behavior

Hyper customization

Hyper Localization

Channels of influence and stakeholders –   
private and public  
Private sector growing rapidly and public sector seeks to catch up

AI for job matching platforms and recruitment 

AI digital in creative industry: photography, music, film, art, graphic design

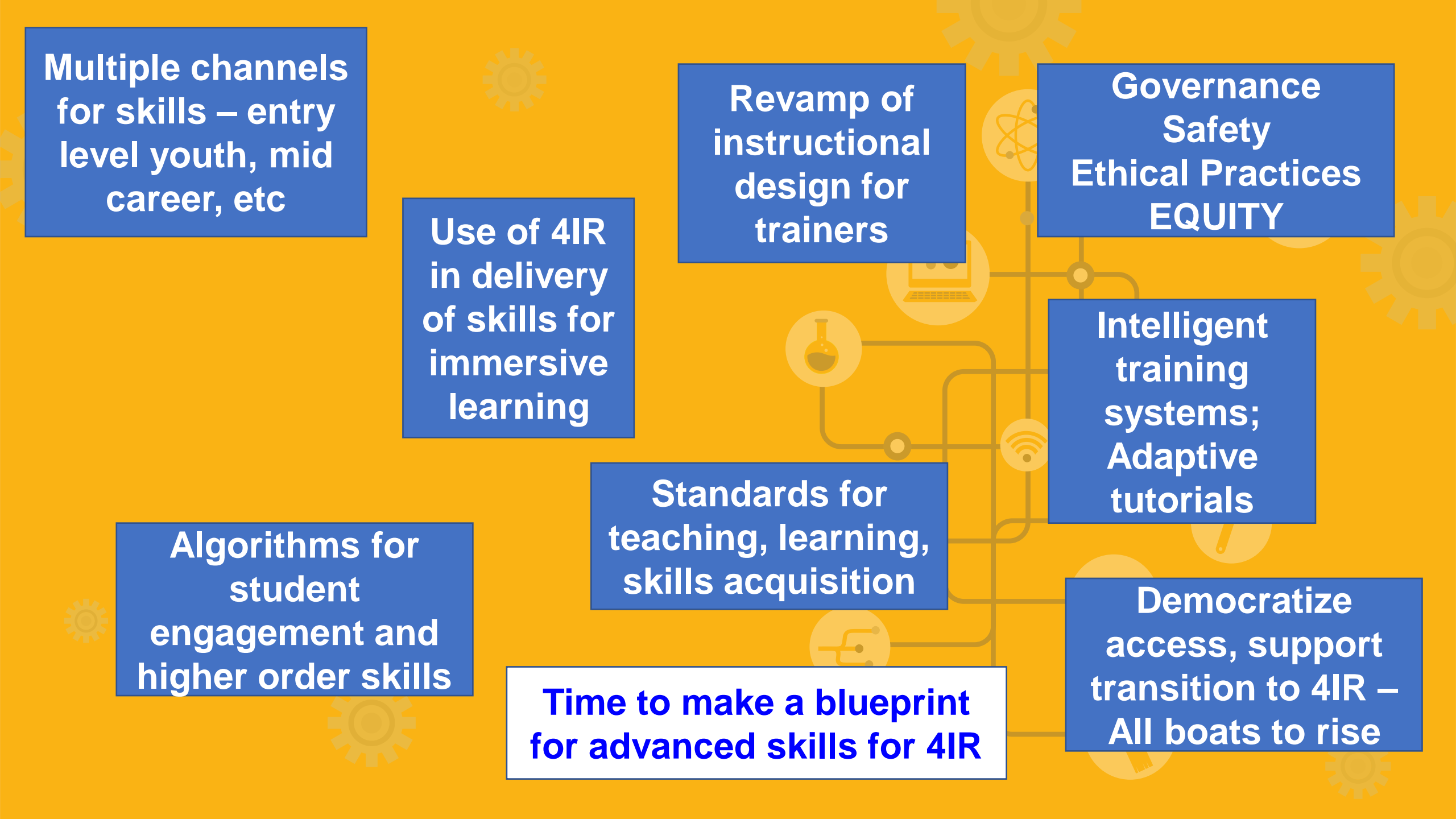
Micro credentials  
Blockchain for qualifications repositories

## Implications for education and training

- A full eco system approach – brick and mortar, digital, blended, bootcamps, virtual academies
- A full life cycle approach – no degrees for life; mid career pivot, upskilling and reskilling
- Multiple career pathways

## Revenue Streams

Multiple channels of physical, virtual and blended Learning  
Conventional degrees and new age digital badges and other credentials



Multiple channels  
for skills – entry  
level youth, mid  
career, etc

Use of 4IR  
in delivery  
of skills for  
immersive  
learning

Revamp of  
instructional  
design for  
trainers

Governance  
Safety  
Ethical Practices  
EQUITY

Intelligent  
training  
systems;  
Adaptive  
tutorials

Algorithms for  
student  
engagement and  
higher order skills

Standards for  
teaching, learning,  
skills acquisition

**Time to make a blueprint  
for advanced skills for 4IR**

Democratize  
access, support  
transition to 4IR –  
All boats to rise

Thank you!