

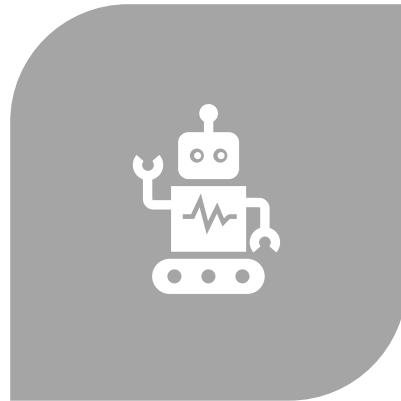
ADB experience in
supporting client
countries in aligning
TVET curriculum to
Industry Revolution 4.0
technologies

October 2021

Outlines



ADB'S WORK ON IR4.0

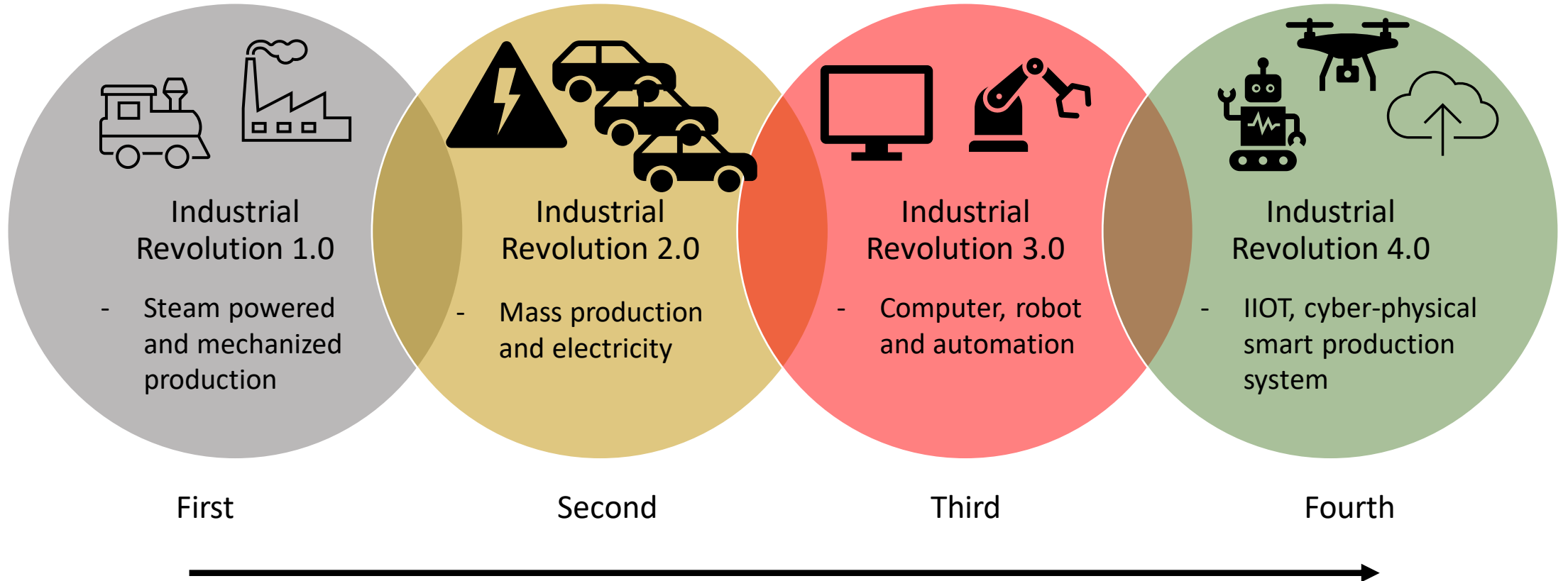


IR4.0 TECHNOLOGIES
AND SKILLSETS



NEW DIGITAL JOBS

Industrial Revolutions



IR4.0 initiatives by ADB

ASEAN 4.0 study jointly with WEF

Reaping the benefits of IR4.0 (4 ASEAN Countries) + Central West Asian Countries

Under Global Technology Innovation Village platform (GTIV), ADB and SP together with GTIV partners organized a series of IR4.0 workshops for selected DMCs

Global SIRI assessment jointly with WEF for selected DMCs

Project level IR4.0 design

Global Technology Innovation Village

Advanced Manufacturing



Government Agencies



5G and AIoT



Others




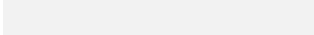
IR4.0 Technologies and Applications

- IIOT and Sensors Technologies
- Cyber-security
- Big Data & Analytics
- Cloud Computing
- Additive Manufacturing
- Blockchain
- Artificial Intelligence
- Mixed Reality
- 5G



Trades and IR4.0 Technology Matrix – Philippines SIPTVETS Project

Focused Trade Areas	Industrial 4.0 Technologies								Domain Specific Technology Skillset		
	Big Data & Analytic	IIOT, IOT, and Smart Sensor	Artificial Intelligence	Additive Mfg	Flexible Autonomous Production System / Advanced Robotics	Cyber Security	Cloud computing	AR/MR			
Manufacturing - Precision Engineering									Advanced Machining	Metrology	
Manufacturing - Mechatronics											
Automotive Technology Servicing & Maintenance									Electric Vehicle/Hybrid Electric Vehicle	Autonomous Vehicle	Energy Storage
Agriculture Farming									Low Carbon Foot-Print (LFP) Intensive Urban Smart Farm	Drone	
Aquaculture Farming									LFP Intensive Urban Smart Farm	Feed Technology	Selective Genetic Breeding
Welding Technology									Laser Welding	Robotic Welding	
Hospitality, and Food & Beverage									Smart POS system		
Construction Technology									Building Information Management	Drone	
TVET Delivery											

Legend:
 Extensive Application
 Emerging Usage



Leading Industry 4.0 Vendors 2019

Connected Industry Building Blocks

Hosting 	Industrial IoT Platforms 	Analytics 
Microchips 	Sensors 	Connectivity Hardware 
Cybersecurity 		
Systems Integrators 		

Other Industry 4.0 Supporting Technologies

Additive Manufacturing 
Augmented and Virtual Reality 
Collaborative Robots 
Connected Machine Vision 
Drone / UAVs 
Self-Driving (Material Transport) Vehicles 

Source: IoT Analytics, January 2019. Vendor map does not include suppliers of vertical or use case specific solutions (i.e. end-to-end vibration monitoring solutions, etc.). Leading companies were selected based on a number of factors including sophistication of relevant product offerings, number of compelling case studies, and size of Industry 4.0 business. It is possible that some vendors have been missed. To submit a company for consideration in the 2020 vendor map, please contact research@iot-analytics.com with the company information.

Emerging Technological Skillsets in Traditional Jobs

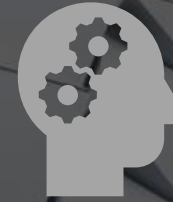


Tracking job-postings for emerging technologies jobs. Some examples:

Could a particular emerging technology be a general-purpose technology? – University of Toronto, Burning Glass Technologies, and University of Southern California














OECD study on Demand for AI skills in jobs: Evidence from online job postings

AI and Jobs: Evidence from Online Vacancies – MIT, NBER, Princeton, Boston University



Mapping the Movement of AI into the Marketplace with Patent Data - CMU

Figure 1: Gig Economy sector definitions and examples

Sector	Description	Sub-Sectors Included	Example Platforms
Asset-Sharing Services	Digital platforms that facilitate short-term P2P rentals of one owner’s (or “freelancer”) property to another individual	Home-sharing, car-sharing, boat-sharing, parking space-sharing, P2P equipment sharing	 HomeAway  airbnb  TURO
Transportation-Based Services	Digital platforms that require a freelance driver to complete the requested transport service	Ride-sharing, carpooling, restaurant delivery, and goods delivery	 BlaBlaCar  Careem  DOORDASH  Uber
Professional Services	Digital platforms that connect freelancers directly with businesses to complete projects	Business work, microwork, design, tech/coding, writing/translation, administrative	 Upwork™  CATALANT  guru™
Handmade Goods, Household & Miscellaneous Services (HGHM)	Digital platforms for freelancers to sell homemade crafts or offer on-demand services for household-related tasks	Home-services, babysitting, handmade crafts, tutoring, pet services, and misc. (DJ, events, etc.)	 Care.com™  Airtasker  Etsy

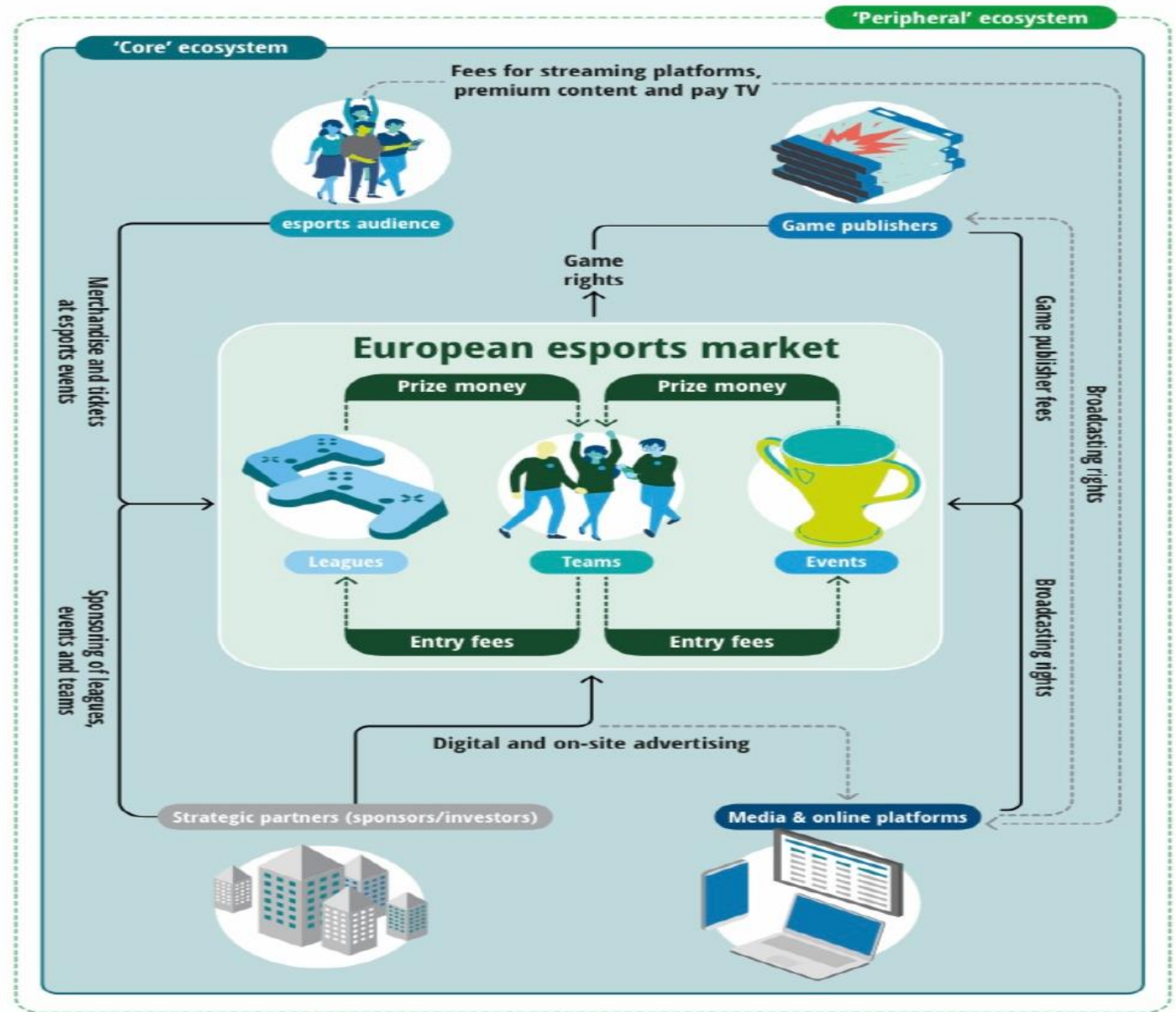
Source: Mastercard Gig Economy Industry Outlook and Needs Assessment (May 2019)

E-commerce:
live streaming, short
video streaming,
SEO, user
experience designer,
developer, etc.



Picture Source: news.cgtn.com

Esports Industrie



Source: Deloitte Insights

Thank You

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