

Untangling the Entangled

Preparing Philippine TVET for the Fourth Industrial Revolution (4IR)

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Technical Education
and Skills Development
Authority

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The background of the slide is a dark blue gradient with a complex network of white and light blue lines and dots, resembling a molecular structure or a data network. The lines connect various points, creating a web-like pattern that is more dense in some areas and sparser in others. The overall effect is a sense of interconnectedness and digital complexity.

Impact of the 4IR: Background



Volatile

Uncertain

Complex

Ambiguous

High-Paying Jobs / Jobs Under Threat From Automation

TRAVEL AGENTS



TELLERS



SURVEYORS



JOURNALIST



LEGAL ASSISTANT



FINANCE ASSISTANT



These Jobs Did Not Exist Before the 4IR

Jobs that Barely Existed 10 Years Ago

1. Android, iOS Developer
2. Zumba Instructor
3. Social Media Strategist
4. Data Scientist
5. UI/UX Designer
6. Big Data Architect
7. Cloud Services Specialist
8. Digital Marketing Specialist

BLOGGER



**SUSTAINABILITY
MANAGER**



DRONE OPERATOR



APPS DEVELOPER



**SOCIAL MEDIA
STRATEGIST**



DATA SCIENTIST





Industry 4.0

Are you feeling the impact?

Are we ready for it?

1991

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PRESIDENTS' BIRTHDAY SALE!

DON'T DELAY!

3-DAY SPECIALS ABOVE GOOD SATURDAY THRU MONDAY ONLY!



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Reg. 1795
Realistic STEREO-MATE AM/FM personal receiver shrugs off wind, water, #120. Includes antenna. See store for details.



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30% Off 1388
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Consonator™ 281 clock radio's compact size cuts nightstand clutter. #120. See store for details.



In-Ear Stereo Phones
HALF PRICE! 788
Reg. 1575
Realistic™ in-ear phones weigh just 6.6 ounces! With carry pouch. #117. See store for details.



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39% Off 488
Reg. 795
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INTRODUCTORY SPECIAL!



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Mobile Cellular Telephone
Save \$100
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Low As \$19 Per Month. Reg. 299.00



Deluxe Portable CD Player
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Low As \$19 Per Month. Reg. 199.95



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Save \$60 79.95
Reg. 139.95

Road Patrol EX™ detector lets you drive with confidence. Separate X and K-band tones. #22-1021



Mobile CB With Channel Controls on Mike

HALF PRICE! 49.95
Reg. 99.95

Realistic TRC-430 lets you get highway info or help—you'll never have to drive "alone" again! #21-1314



20-Memory Speed-Dial Phone

Cut 33% 29.95
Reg. 44.95

Radio Shack ET-292 Speed-Dial™ is ideal for home or office. Total dialing time: #43 SP. #4300. #43-184



Compact 10-Channel Desktop Scanner
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Handheld Voice-Actuated Cassette Tape Recorder

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Realistic CTM-85 makes an excellent "voice-actuated" recorder for dictation, secretaries or executives. #43-1006

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Realistic BLUVAL 122 includes video light for indoor shooting, 2-lux sensitivity. With accessories. #16-801



3-Way Speaker With Massive 15" Woofer

Save \$110 149.95
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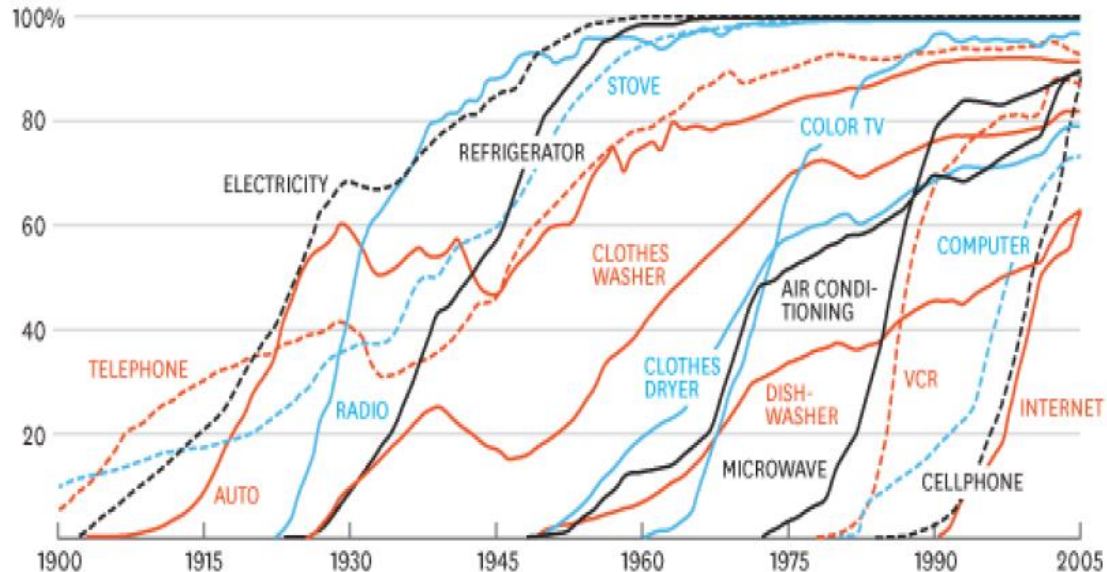
Optimum Match Two™ system pumps out bass you can feel. 4" horn tweeter, 5" midrange. #43-430



Technological Uptake is Faster than Ever

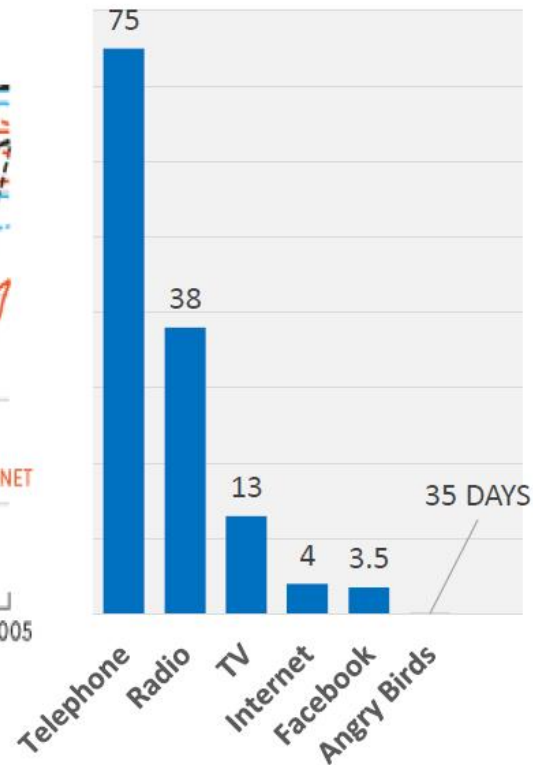
CONSUMPTION SPREADS FASTER TODAY

PERCENT OF U.S. HOUSEHOLDS



Source: Michael Felton, The New York Times.

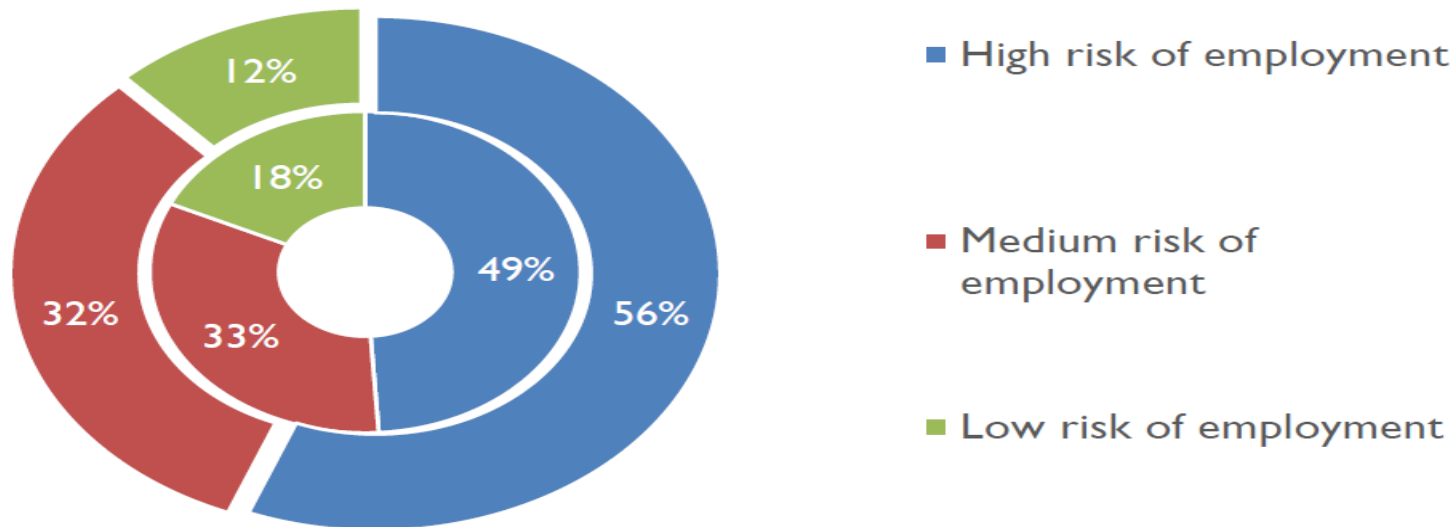
YEARS TAKEN TO REACH 50 MILLION USERS



Source: Miew Tiang Tang, ILO "ASEAN in Transformation: How technology is changing jobs and enterprises"

Jobs at Risk of Automation in the Philippines

Distribution of employment at risk of automation, ASEAN-5 and The Philippines



Notes: The outer ring represents average risk of automation across ASEAN-5, the inner ring represents risk of automation in The Philippines

Source: Adapted from ILO: *ASEAN in transformation: The future of jobs at risk of automation*, op. cit.

Source: Miew Tiang Tang, ILO "ASEAN in Transformation: How technology is changing jobs and enterprises"

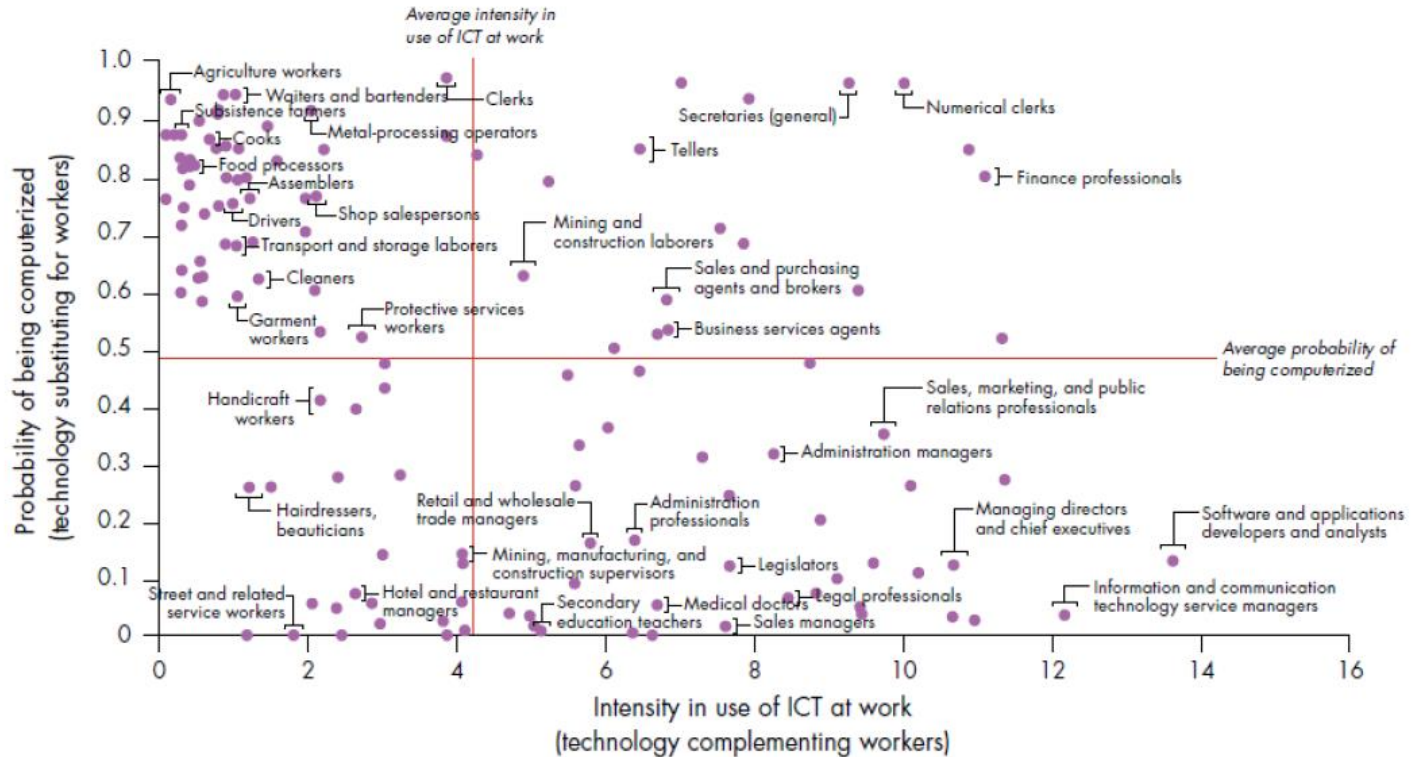
Impact of ICT and computerization vary per job

Routine and high-tech jobs highly likely to be affected by automation

- Numerical clerks
- Finance Professionals
- Secretaries
- Tellers
- Sales & Purchasing agents/brokers
- Business services agents
- Mining & construction laborers

Creative and low-tech jobs are less likely to be automated

Probability of being computerized and intensity in use of ICT at work, by occupation



Source: Dr. Elisabetta Gentile (ADB)

4IR – Implications in TVET

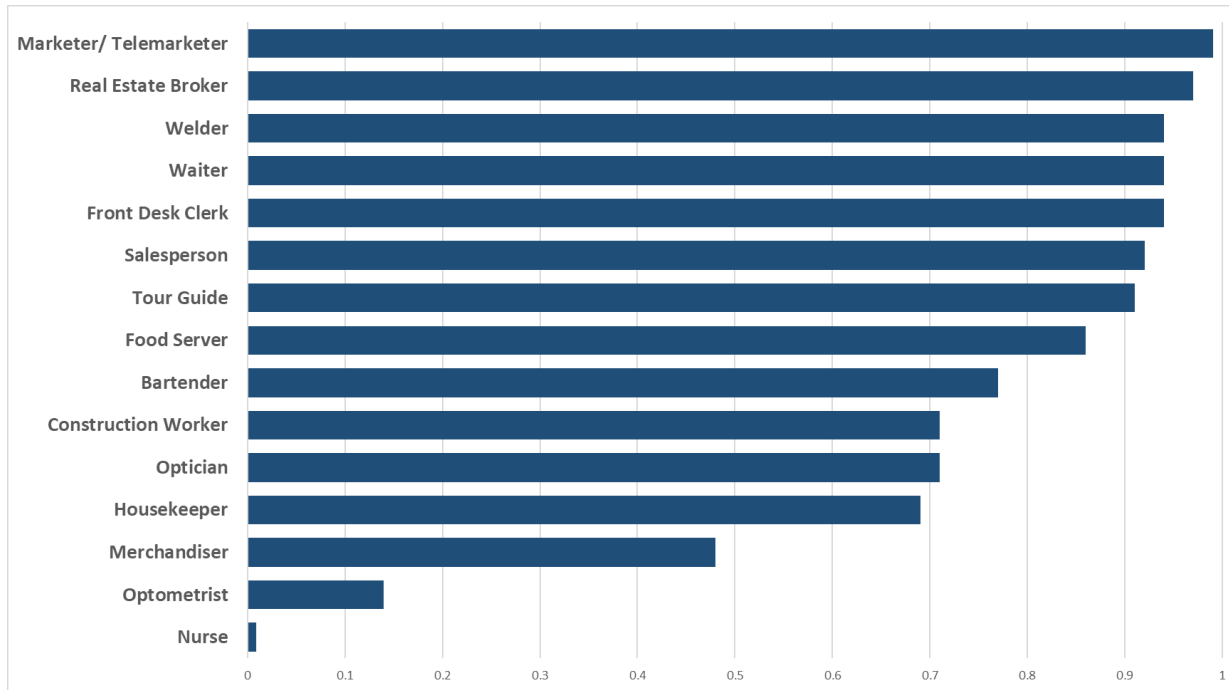
Graph: World Development Report 2016, World Bank

Sources: WDR 2016 team, based on STEP household surveys (World Bank, various years) and Frey and Osborne 2013. Data at http://bit.do/WDR2016-Fig2_25.

Note: The probability of being computerized is obtained from Frey and Osborne (2013). ICT intensity is an index between 0 (no use of technology) and 19 (most use of technology). ICT = information and communication technology. The red lines represent the average values of ICT intensity (x-axis) and of computerization (y-axis) across the pooled sample of 10 developing countries with STEP household surveys.

Jobs at Risk of Automation in the Philippines

In-Demand Service Jobs in the Philippines*, and their Probability of Being Computerized or Automated**



“0” = not likely
“1” = very likely

* Taken from the Department of Labor and Employment's PROJECT JOBSFIT: The DOLE 2020 Vision (http://ble.dole.gov.ph/downloads/PRPA/IN-DEMAND_AND_HARD-TO-FILL_OCCUPATIONS.pdf)

** Frey and Osborne (2013). The Future of Employment: How Susceptible are Jobs to Computerisation?. Oxford University. Retrieved from: https://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf

4IR: 2 Sides of the Coin

Creation of Jobs

- Emergence of new jobs and industries with the advent of new technologies
- Greater demand for more complex non-routine cognitive, social, and ICT tasks ; transition to KPO (nurses, accountants, IT developers, other professions are in demand in IT-BPM)

Replacement of Jobs

- Automation will hurt workers in **routine and manual** jobs
- Workers with weaker foundational skills could find themselves **left behind**
- Some cognitively oriented but routine jobs may be displaced

**Bottom line: Pursue Education Reform and Lifelong Learning
TVET is needed for Retraining and Skills Development**



Rethinking TVET for the 4IR

**TVET plays a crucial
role in preparing for
the 4IR**



**TRADITIONAL
MINDSET**

**TRADITIONAL
EDUCATION
PRACTICES**

**VIGOROUS
EDUCATION**

SOFT SKILLS

**LIFELONG
LEARNING**

JOBS
LABOR DEMAND, SUPPLIES

**Worker Skills/
Competencies**

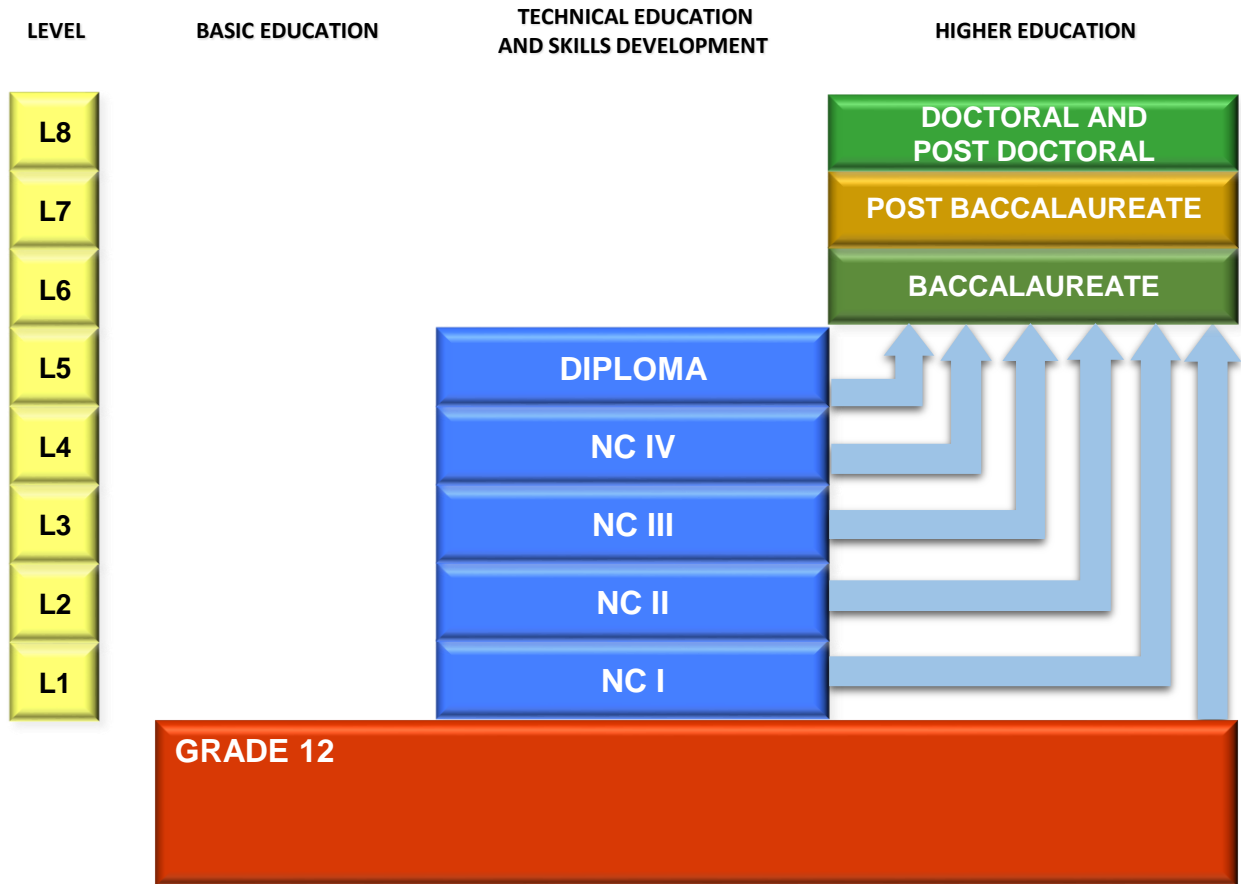
The background features a complex network of white lines and dots on a dark blue gradient. The lines connect various points, creating a web-like structure that is more dense in the center and fades towards the edges. The dots are small and white, serving as nodes in the network.

What TESDA is doing right now

The Philippine Qualifications Framework

RA 10968

The Philippines is currently referencing the PQF with the AQRF





5 Year Sectoral Plan



NTESDP VISION

**VIBRANT QUALITY
TVET** FOR DECENT WORK
AND SUSTAINABLE
INCLUSIVE GROWTH

STRATEGIC THRUSTS

**TVET FOR GLOBAL
COMPETITIVENESS &
WORKFORCE READINESS**

**TVET FOR
SOCIAL EQUITY**



AGILITY

Fast reaction time
Immediate responsiveness
Innovative ways of doing things in the advent of the Fourth Industrial Revolution



SCALABILITY

Intensify and scale up TVET programs
Programs to address the huge demand for a skilled and conscientious workforce



FLEXIBILITY & SUSTAINABILITY

More practical, culturally-sensitive approaches to cater to the needs of the disadvantaged sector

NTESDP OBJECTIVES, STRATEGIES, & PROGRAM DIRECTIONS



1 Create a conducive and enabling environment for the development and quality service delivery of the TVET sector

Promote flexible & agile system in TVET



Strengthen quality assurance mechanisms



Expand TVET capacity in key growth areas



Invest in research, statistics, & knowledge management



2

Prepare the Philippine workforce for the challenges posed by the 4th Industrial Revolution

Adopt Enterprise-Based Training as dominant mode



Adapt and adopt international standards for TVET



Adopt Skills Needs Anticipation (SNA) to identify 4IR skills requirements



3

Assure industries with high economic and employment growth potentials are provided the required quantity of quality workforce

Allocate bulk of funding and support in high-employment priority sectors



Accelerate the establishment of industry boards/guilds



Intensify industry participation in the design development, implementation and assessment of policies and programs



Intensify involvement of industries in the competency assessment



4 Directly and more vigorously address workforce needs of the basic sector/ disadvantaged

Adopt flexible systems of qualification standards and training regulations

Promote convergent approaches in responding to the needs of the vulnerable sector

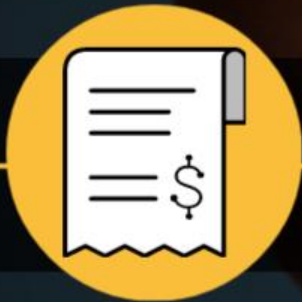
Develop mechanisms to tap enterprises/ industries engaged in "inclusive business" and CSR in skills dev't and economic opportunities of the vulnerable/disadvantaged workers



5

Instill values and integrity in the conduct and delivery of TVET in the whole sector

Assure transparency and healthy traffic of information among stakeholders



Instill and advocate total quality management in TVET core processes

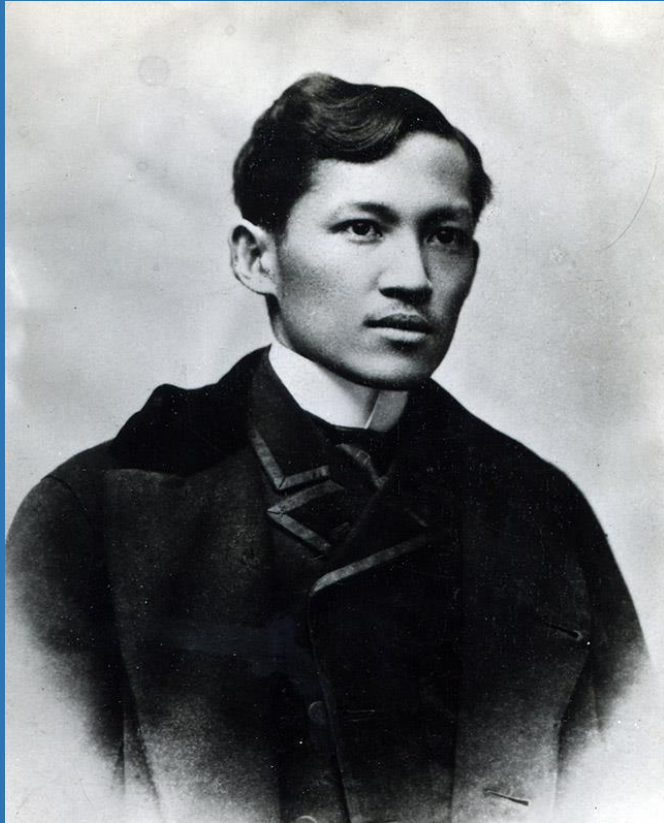


Constant dialogue and robust collaboration with partners towards continuous dev't of TVET delivery



Intensify recognition and giving of incentives for successful partnership





***We cannot all be doctors.
It is necessary that there be
some to cultivate the land.
One must follow one's
inclination.***

– Jose Rizal's February 1896 letter to his sister Lucia on the progress of her sons who were sent to Dapitan to be educated by him

Ambeth Ocampo. 2012. *Looking Back 5: Rizal's Teeth Bonifacio's Bones.*



**Aptitude and
Inclination**

**FLUID
HARMONIZED
ALWAYS READY**

TVET

Thank You

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