

PREPARING INDONESIA'S WORKFORCE FOR INDUSTRY 4.0

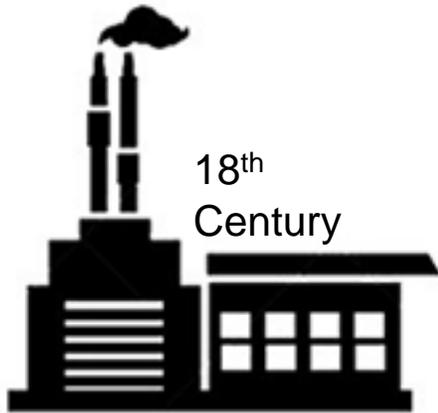


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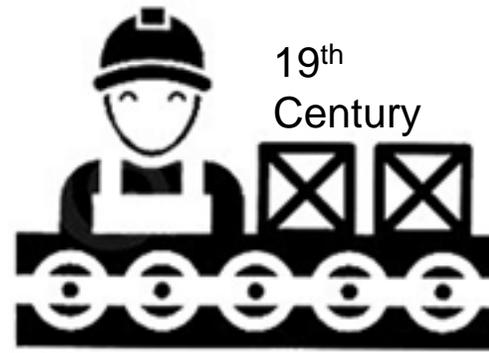
Presented on:
Siemens Digitalize Indonesia, 31th Oktober 2019

PROCESS OF INDUSTRIAL REVOLUTION

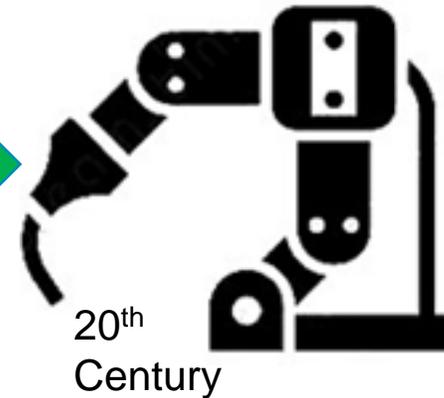
Invention of steam engine, train, steam power ships, replace horse power with machine
industry 1.0



Invention of electric machine and its devices which increase the production of goods
Industry 2.0



Use of IT and Electronics (innovation) generated automation system
Industry 3.0



Use of Big Data and wireless technology
Industry 4.0



If it is seen by the periode of the process, the change of **Industry Revolution is getting shorter from time to time**

DIGITALIZATION OF THE INDUSTRY



Threats:

- In general, digitalization era will eliminate about 1 – 1,5 billions jobs for 2015-2025, due to replacement of human position with automation machine (Gerd Leonhard, *Futurist*);
- It is estimated that in the future, 65% of elementary students in the world will work on type of jobs that haven't existed yet today (*U.S. Department of Labor report*).

Chances:

- Digitalization era is potential to provide net improvement of workforce up to 2.1 millions new jobs in the year 2025
- Potentially decrease of carbon emission approximately 26 billions metric ton from three industry sectors: electronic (15,8 billions), logistic (9,9 billions) dan automotive (540 billions) for the year 201 to 2025 (*World Economic Forum*).



CHANGE OF THE ENVIRONMENT WORK



ROLE OF STATE,
BUSINESSES
AND WORKERS
HAS SHIFTED



DEMAND
DRIVEN IS
MORE
DOMINANT



ARTIFICIAL
INTELLIGENCE,
SUPERCOMPUTING,
DIGITAL INDUSTRY,
CYBERSECURITY, GENE
MANIPULATION



New Platform of Current BUSINESS MODEL in the World

Currently some business model and jobs in Indonesia has already affected by digitalization, such as:

- Conventional Store has started to be replaced by business model of *marketplace*.
- Taxi or traditional 'ojek' have been replaced by online based transportation

UTILIZATION OF internet and digital world as vehicle for interaction and transaction TO MEET HUMAN NEEDS

e-Government

e-Education

Smart Manufacturing

Smart City

Smart Appliances



INDONESIA LABOR MARKET SITUATION AND CHALLENGE IN 2019



CHALLENGE

58% graduates < Junior High

57% non formal worker

5,01% Unemployment

2,24 mil new workforce every year

63% Job Mismatch

56 mil job impacted by digitalization



FUTURE JOB

Old

Pre 1990s

Jobs were found using:

- Local newspapers
- Vacancy signs in shop windows
- Networking

1995

CareerBuilder launched

HELP WANTED

JOB SECTION

The infographic features a hanging sign that says 'HELP WANTED', a newspaper clipping with a 'JOB SECTION' circled, and a blue arrow pointing towards the 'Today' section.

Today

It's now commonplace to complete an **online application or phone interview**, before a job hunter and recruiter meet in person

Today

Employer brand is an important tool for attracting the right talent – **80%** of organisations consider their employer branding to be successful

Today

Employers can check candidates' **social media** to screen hires, and job seekers can use social media to find jobs

Interviewer calling

The infographic includes a smartphone displaying 'Interviewer calling', a laptop showing a social media profile, and a blue arrow pointing from the 'Old' section.



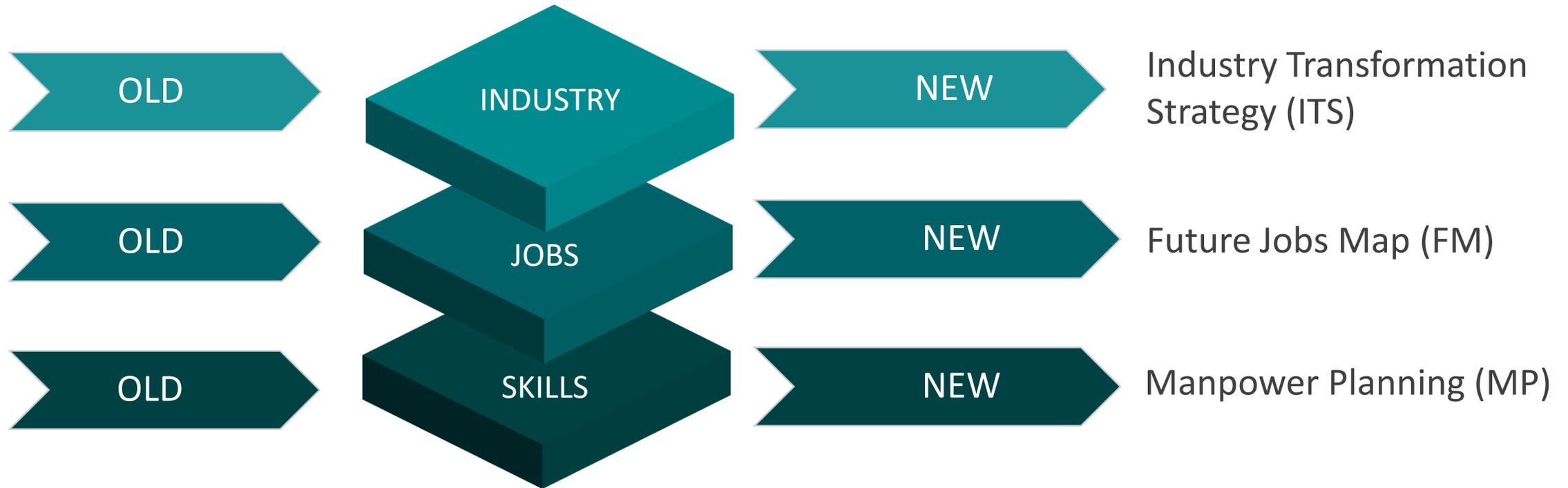
RELATED WITH DATA AND INFORMATION

INVOLVE ITC

- ❖ Production Companies would produce twice more than before.
- ❖ The employee might not work in the industry/company, but move to the office near its residence or even to its own house

Transformation of Indonesia's Labour Market

SCHEME



Transformation of Indonesia's Labour Market

TECHNOLOGY SHIFTING



CHANGE IN JOB POSITION



CHANGE IN SKILL DEMAND

INDUSTRY

OCCUPATION



CHANGE IN INDUSTRIAL SYSTEM

SKILL

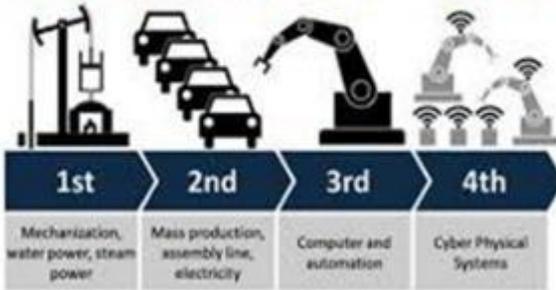
DEMAND

IMPROVE
PRODUCTIVITY



Effects industry 4.0 to Indonesian HR

INDUSTRY 4.0.



Producing cheap, efficient, productive, competitive prices, lower transportation and communication costs, logistics and supply chains are more effective, trade costs will be reduced, and it will even make it easier to open new markets and encourage economic growth.

POTENTIAL disruption of labour market that must have HIGH COMPETENCE, even might increase social tensions

POTENTIAL increase of income and life quality improvement of the community

GOVERNMENT SHOULD BE PRESENT

Respond wisely EVERY POTENTIAL AND FOCUS TO THE STRENGTH. UTILIZATION OF TECHNOLOGY in shaping the social, economy, and culture environment which leads to the IMPROVEMENT OF COMMUNITY WELFARE

DIRECTION OF EMPLOYMENT POLICY

FOR FUTURE WORK

Creation of a conducive employment ecosystem



Convenient for entrepreneurs / investors

Comfortable for the workforce



Protection of labor

Un-employment benefit

Skills Development Fund



Flexibility, massive job creation and quality



Strategy for Transformation Labour Market

52,6 MILLION OF LABOR
POTENTIAL REPLACED AS A RESULT
AUTOMATION

MANPOWER TRANSFORMATION STRATEGY



NEW SKILLS to support AUTOMATION
through Training: Re-Skilling & Up-Skilling



INTERNSHIP



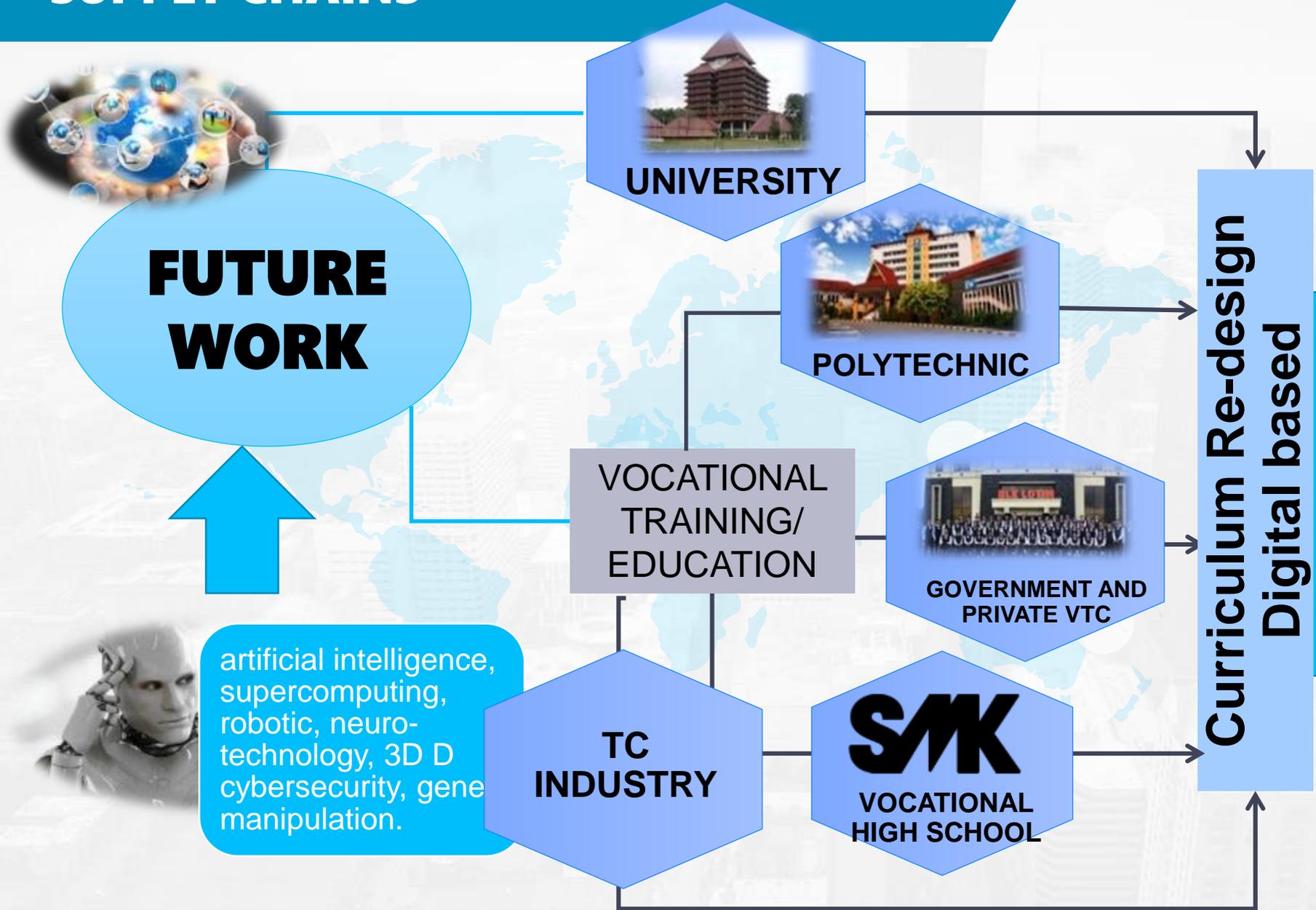
Improve soft-skills



Increased PRODUCTIVITY



EMPOWERING OF THE WORKFORCE SUPPLY CHAINS



Complex Problem Solving

The ability to solve problems that are unfamiliar and yet the solution is known in the real world.



Social Skill

The ability to coordinate, negotiate, persuasion, mentoring, sensitivity in providing assistance to emotional intelligence



Process Skill

The ability consists of: active listening, logical thinking, and monitoring self and the others



System Skill

Ability to be able to make judgments and decisions with cost-benefit considerations as well as the ability to knowing how a the system is created and run

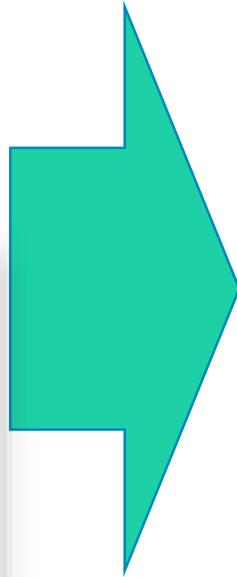


Cognitive Abilities

Skills consisting of, among others Cognitive Flexibility, Creativity, Logical Reasoning, Problem Sensitivity, Mathematical Reasoning, and Visualization.

Technical Skills

WHAT SHOULD BE DONE BY A VTC's



1

- **Identify & develop new competencies and skills necessary to effectively lead in a digital age**

2

- **Find more innovative ways to attract, inspire and develop talent with the multi-disciplinary skills set**

3

- **Develop skills set responded to evolving business models and market demands**

4

- **Develop capability to deliver the organization strategy**



EMPLOYMENT STRATEGY

TVET Institution

Respond the Future Employment



Re-design the curriculum with human digital approach



Collaboration between industry, training institution, Kadin/Apindo, Association, to identify competency needs in the future



INVESTMENT on digital skills development and RECOGNITION OF COMPETENCE

Ability to acquire new skills and competency is VERY IMPORTANT

Triple Skilling in Vocational Training



UP-SKILLING

Target : Worker

Objective : Skill upgrading, skill updating, multi-skilling, career improvement

Outcome: worker productivity and meaning
competitiveness improvement

Data :

- Workforce: 129 mill
 - Part-timer: 38,7 mill (40,08%)
- 78 mill (57,29%) low educated workforce <SMP



SKILLING

Targer : Jobseeker, fresh graduate

Objective : skill adjustment / matching

Outcome: decreasing unemployment rate

Data :

- Unemployment rate: 6,82 mill (5.01%)
- Natural TPT: 3-4%
- 2,24 mill newcomers / year
- 2,45mill youth unemployment aged 20-24 y/o



RE-SKILLING

Target : Laid off worker

Objective : to provide new skill to enable worker to find new job or to be entrepreneur

Outcome: to prevent unemployment

Data :

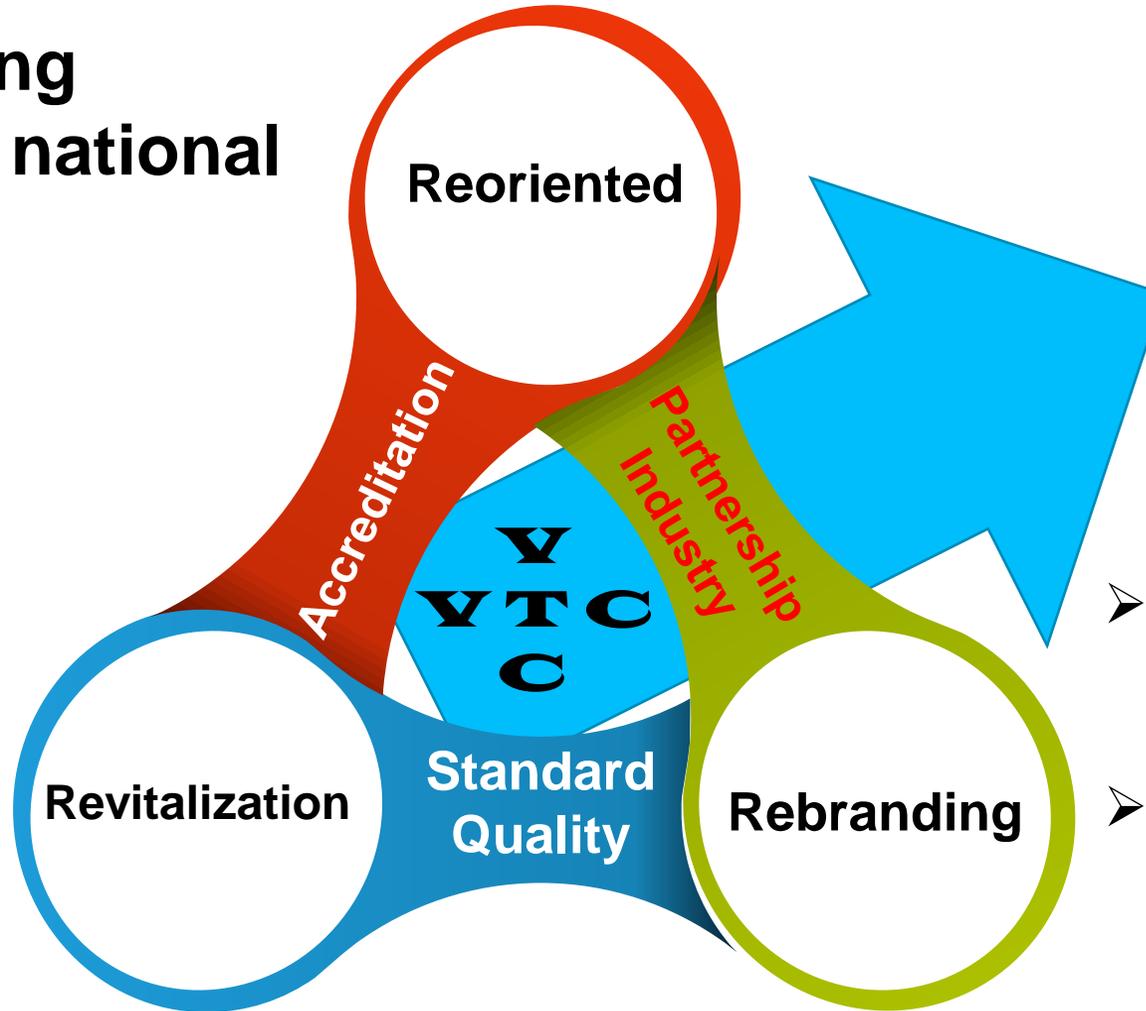
- Involuntary Laid-off Workers : 348 thousand people/year

TRIPLE SKILLING

TRANSFORMATION OF VTC's FOR FUTURE WORK

Focus on leading vocational and national priorities

Rejuvenation of training facilities and facilities



Towards Professional VTC, creating Indonesian Professionals

- **Development of cooperation between domestic and foreign training institutions**
- **Development of BLK partnerships with industry (co-manage) for corporate culture purposes**



Thank You

