E-Workforce Ecosystem

Optimizing National Workforce Management

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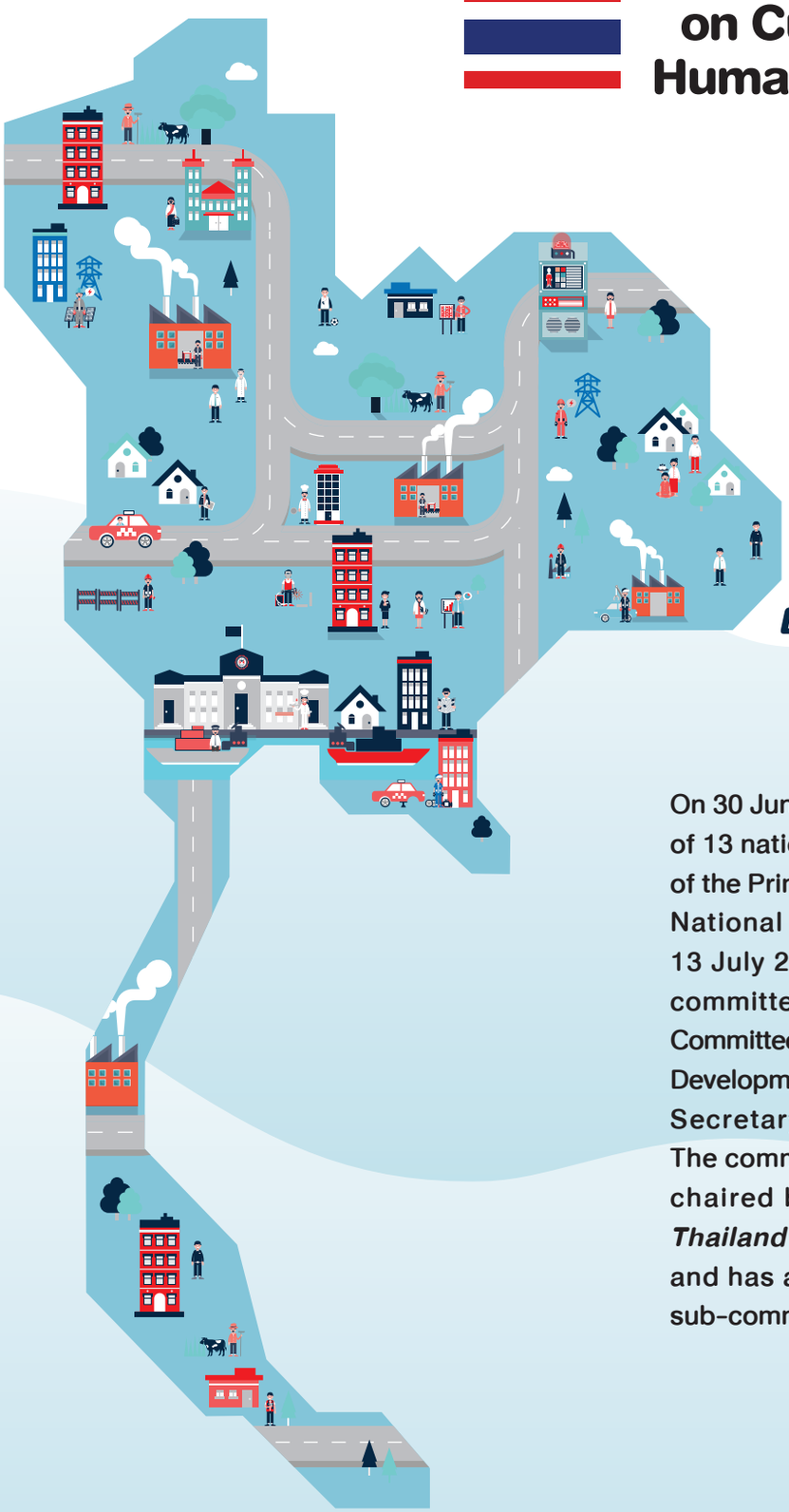
Introduction

The National Reform Plan on Culture, Sports, Labor and Human Resource Development



Reform Action No. 4:

Developing a national integrated workforce management system

On 30 June 2020, the cabinet approved the appointment of 13 national reform committees. Then Announcement of the Prime Minister's Office on the Appointment of the National Reform Committees (No. 2) was issued on 13 July 2020 announcing the appointment of the 13 committees, which also include the National Reform Committee on Culture, Sports, Labor and Human Resource Development, chaired by ***Professor Dr. Nithi Mahanonda***, Secretary General of Chulabhorn Royal Academy. The committee has a sub-committee on labor which is chaired by ***Mr. Nakorn Silpa-archa, Chairman of Thailand Professional Qualification Institute (TPQI)*** and has a TPQI representative as a member and the sub-committee's secretary.

National Reform Plan

National Reform Plans (Revised)

Announcement of the Prime Minister's Office on the National Reform Plans (Revised) dated 23 February 2020

Appointment of 13 National Reform Committees

Announcement of the Prime Minister's Office on the Appointment of the National Reform Committees (No. 2) dated 13 July 2020

1. *Politics*
2. *National Administration*
3. *Law*
4. *Judicial Process*
5. *Economy*
6. *Natural Resources and Environment*
7. *Health*
8. *Mass Communication & Information Technology*
9. *Society*
10. *Energy*
11. *Anti-corruption*
12. *Education*
13. *Culture, Sports, Labor, and Human Resource Development*

No. 13: National Reform Committee on Culture, Sports, Labor and Human Resource Development

Professor Dr. Nithi Mahanonda
Chairman

Sub-committee on Culture

Mr. Veera Rojpojanarat
Sub-committee Chairman

Reform Action No. 1
Promoting virtue and ethics among people of all ages through entertainment industry reform and cooperation between the public and private sectors.

Reform Action No. 2
Developing learning and community economics based on culture in an integrated manner.

Sub-committee on Sports

Khunying Pattama Leesawadtrakul
Sub-committee Chairman

Reform Action No. 3
Using people-centric approach in promoting sports as a way of life, inclusive and equitable access to exercise facilities, and career opportunities in sports.

Sub-committee on Labor

Mr. Nakorn Silpa-archa
Sub-committee Chairman

Reform Action No. 4
Developing a national integrated workforce management system.

Sub-committee on Human Resource Development

Dr. Ronaphop Pattamadis
Sub-committee Chairman

Reform Action No. 5
Managing the potential of the country's human resource.

***TPQI** is tasked to be the main agency responsible for the Reform Action No. 4 to develop a national integrated workforce management system, which is part of the National Reform Plan on Culture, Sports, Labor and Human Resource Development. To achieve the reform objectives, TPQI seeks to establish partnership with relevant entities on the followings:*

1) Establishing Thailand Workforce Agency (TWA) as a central body to manage the country's workforce.
2) Developing an E-Workforce Ecosystem platform as the national integrated workforce management system.
3) Exploring ways to improve existing government funds or establish a new one to support lifelong learning.

This document presents the progress made by the Sub-committee on E-Workforce Ecosystem appointed by the National Reform Committee on Culture, Sports, Labor and Human Resource Development to develop an E-Workforce Ecosystem platform as the national integrated workforce management system.

The COVID-19 pandemic has widely affected Thailand's economy, especially businesses in the service and tourism sectors which employ a significant share of the workforce. The Bank of Thailand (BOT)'s estimates as of early August 2021 show that the third wave of COVID-19 pandemic has made the country's labor market more volatile. In previous crises, namely the global financial crisis in 2008 -2009, the great flood in 2011 and the political crisis in 2014, *it took less than a year for Thailand's labor market to recover to the pre-crisis levels. However, in the current COVID-19 crisis, the labor market would experience a W-shaped* recovery as the employment picked up in the 4th quarter of last year and 1st quarter of this year before falling down in the following quarter, and is expected to fall further in the 3rd quarter of this year if the lockdown to control the pandemic continues to prolong (Figure 1).

At present, many businesses, shops and factories have to close down, causing higher unemployment and people to look for new jobs, while those who are employed also have to look for a second job as they have to be prepared for uncertainties. Therefore, continuously developing and adding value to oneself as well as developing new skills to match demands in the labor market are very critical.

In such a situation, creating a big data on the national workforce will benefit decision makings and the development of workforce to meet the labor market needs. ***E-Workforce Ecosystem*** is an intelligent platform which provides the answer.

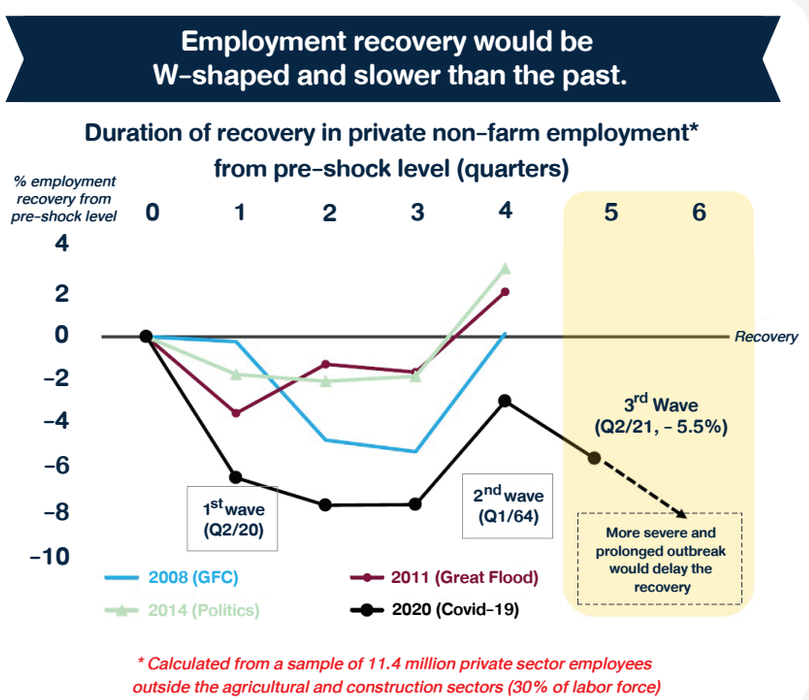


Figure 1: COVID-19 pandemic has made Thailand's labor market more volatile as employment recovery would be W-shaped.

Note: Q2/2020 is 2nd quarter of 2020 and Q1/2021 is 1st quarter of 2021.

Source: Bank of Thailand,
Minutes of the National Monetary Policy Committee Meeting (No. 5/2021), 2021
Data from the Labor Force Survey
by the National Statistical Office of Thailand, calculations by BOT.

What is E-Workforce Ecosystem platform?

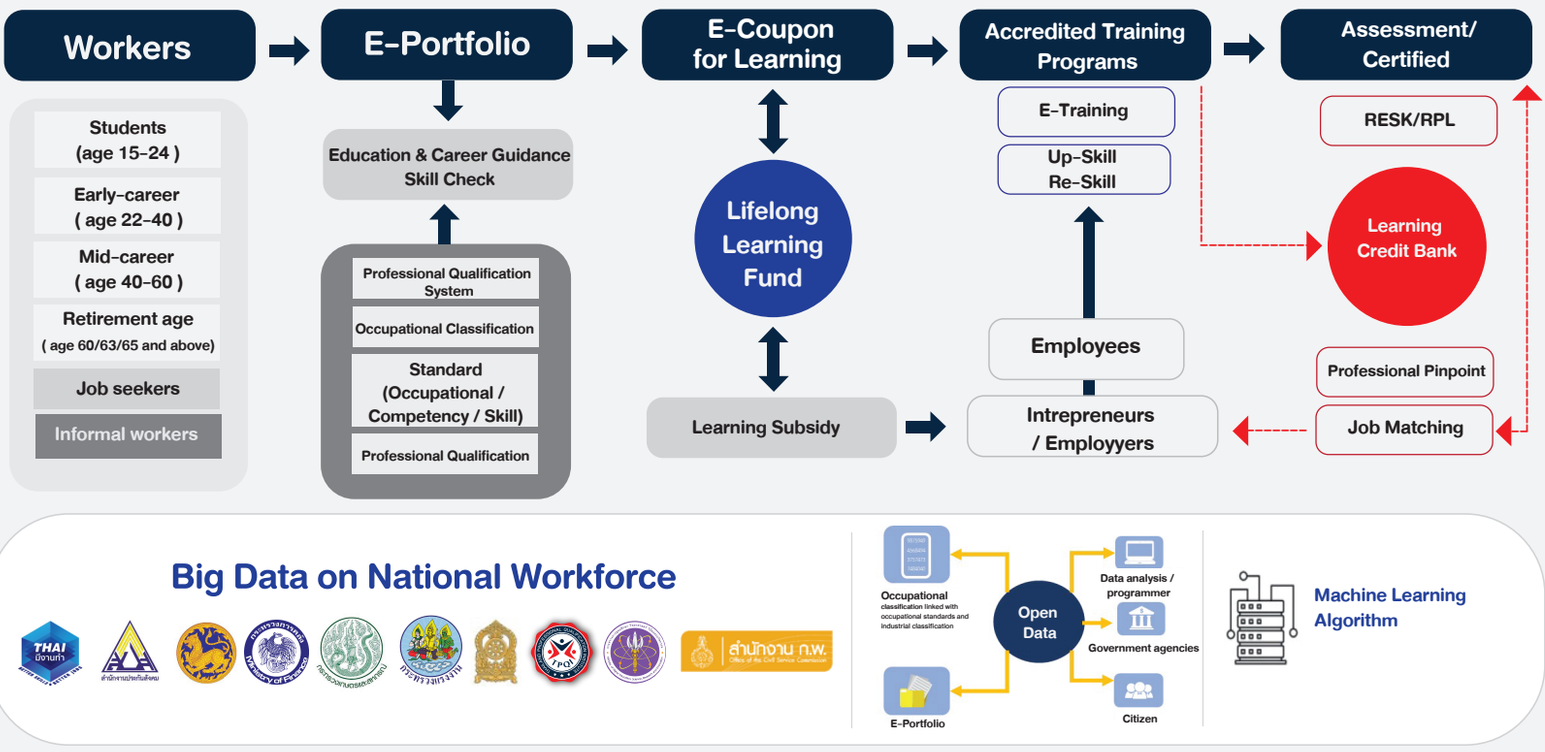
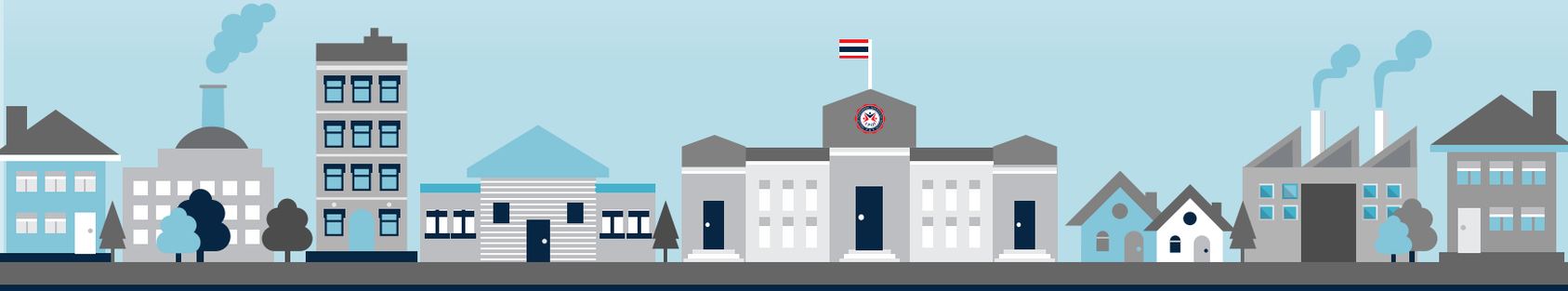


Figure 2 : E-Workforce Ecosystem Platform

Thailand Professional Qualification Institute (TPQI) is the main agency responsible for a government's Big Rock project to develop a national integrated workforce management system, which is part of the National Reform Plan on Culture, Sports, Labor and Human Resource Development. As part of the national reform plan, E-Workforce Ecosystem platform (Figure 2) is developed to integrate data on workforce and labor market collected by multiple agencies into a big data structured and supported by E-Portfolio system.

As data on workers' educational background, trainings and experiences are put together in one place, *a clear continuous self-development and lifelong learning path* can be tailored for each worker to up-skill, re-skill or obtain new skills which could be developed into a 2nd or 3rd job. The system also provides an efficient job matching platform which ensures that job seekers have equal access to employment at all levels while employers have access to qualified workers who possess needed skills.



What is E-Workforce Ecosystem Sandbox?

E-Workforce Ecosystem Sandbox

is a sandbox in which a national workforce management system is developed using data collected by multiple agencies, including Thailand Professional Qualification Institute (data of applicants for competency-based assessment according to occupational standards), Digital Government Development Agency (data governance services), Department of Employment (data on employment in the labor market) and Bank of Thailand (economic data analysis). Analysis of the integrated data reveals that among 219,381 applicants for Thailand Professional Qualification Institutes' occupational standard assessments, there are 90,692 who are not in the social security system, 67,959 who remain in the social security system and 60,730 who have left the social security system, as shown in Figure 3.

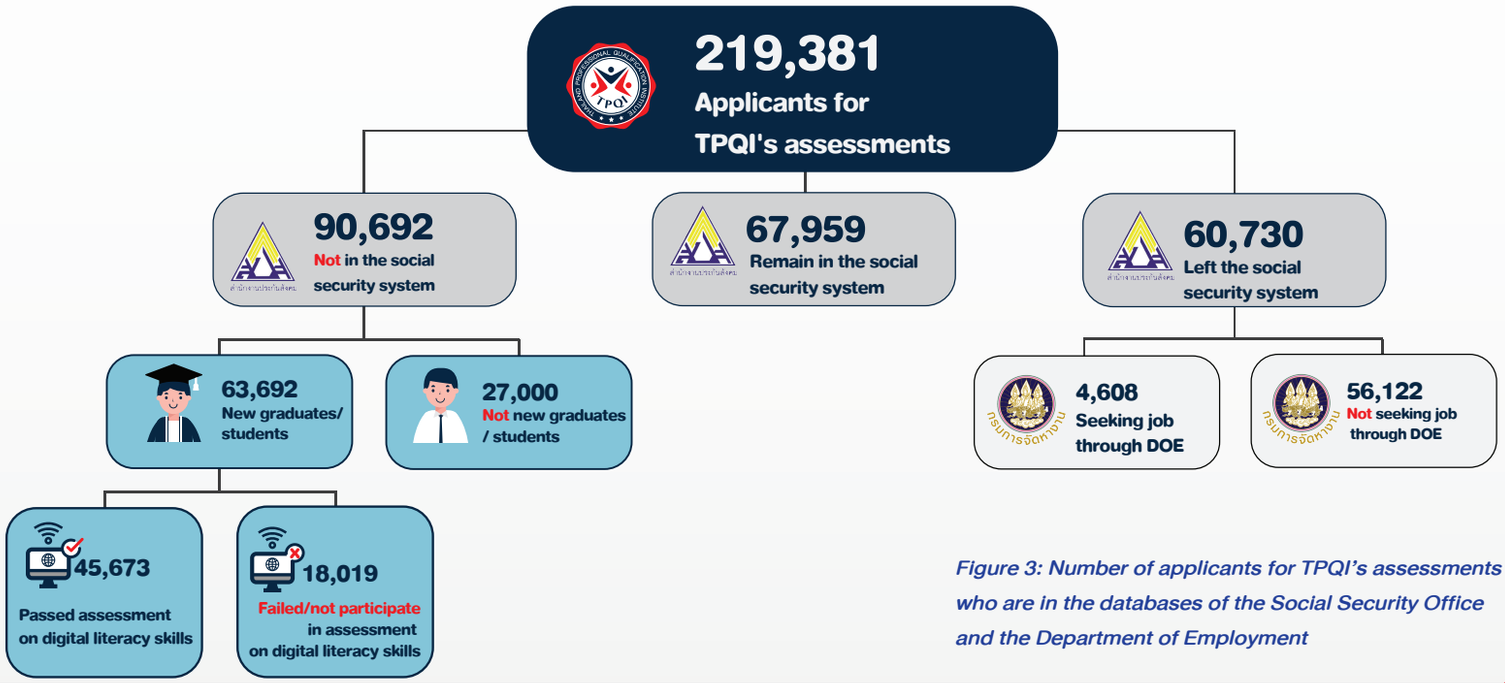
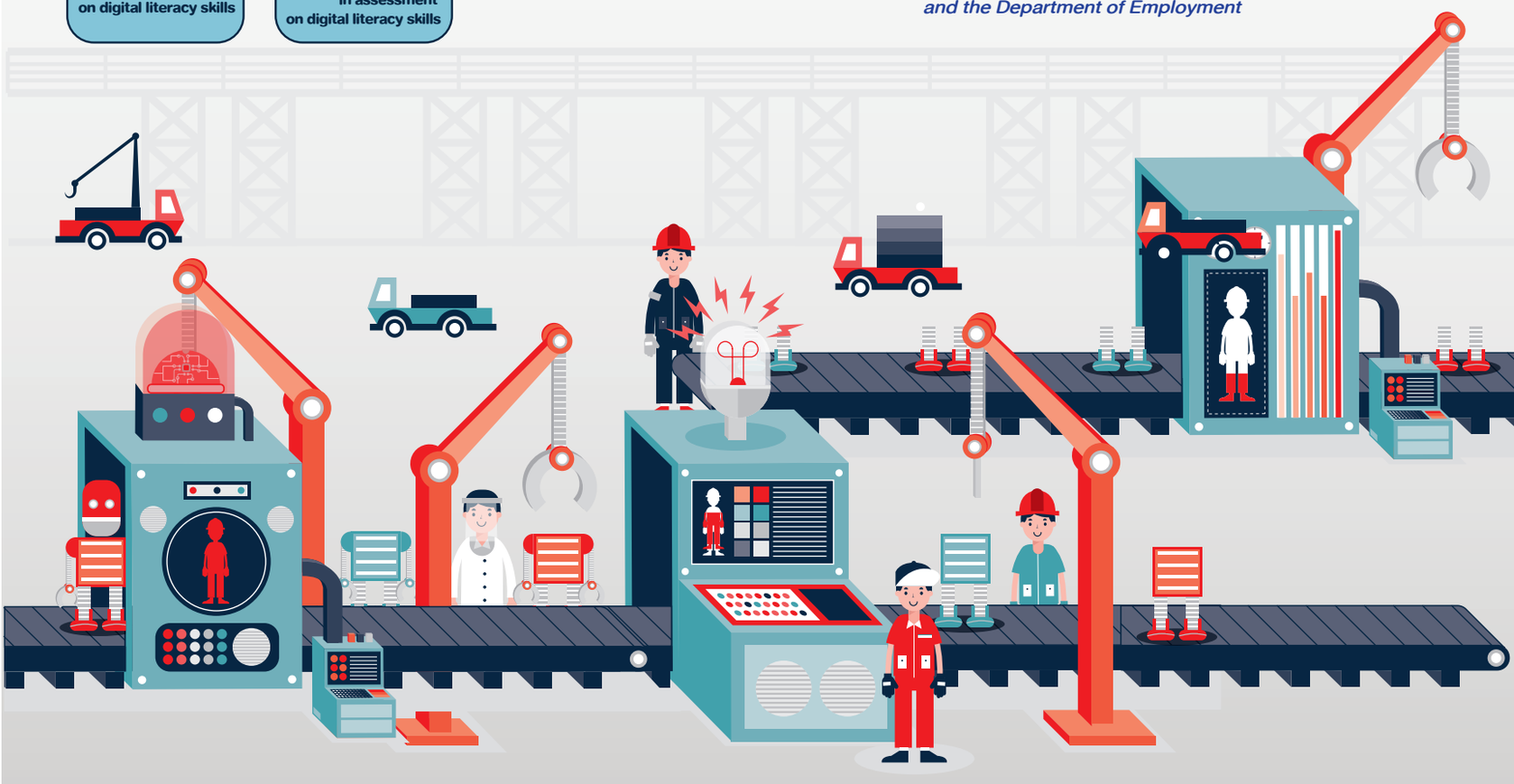


Figure 3: Number of applicants for TPQI's assessments who are in the databases of the Social Security Office and the Department of Employment



What can E-Workforce Ecosystem Sandbox tell us?

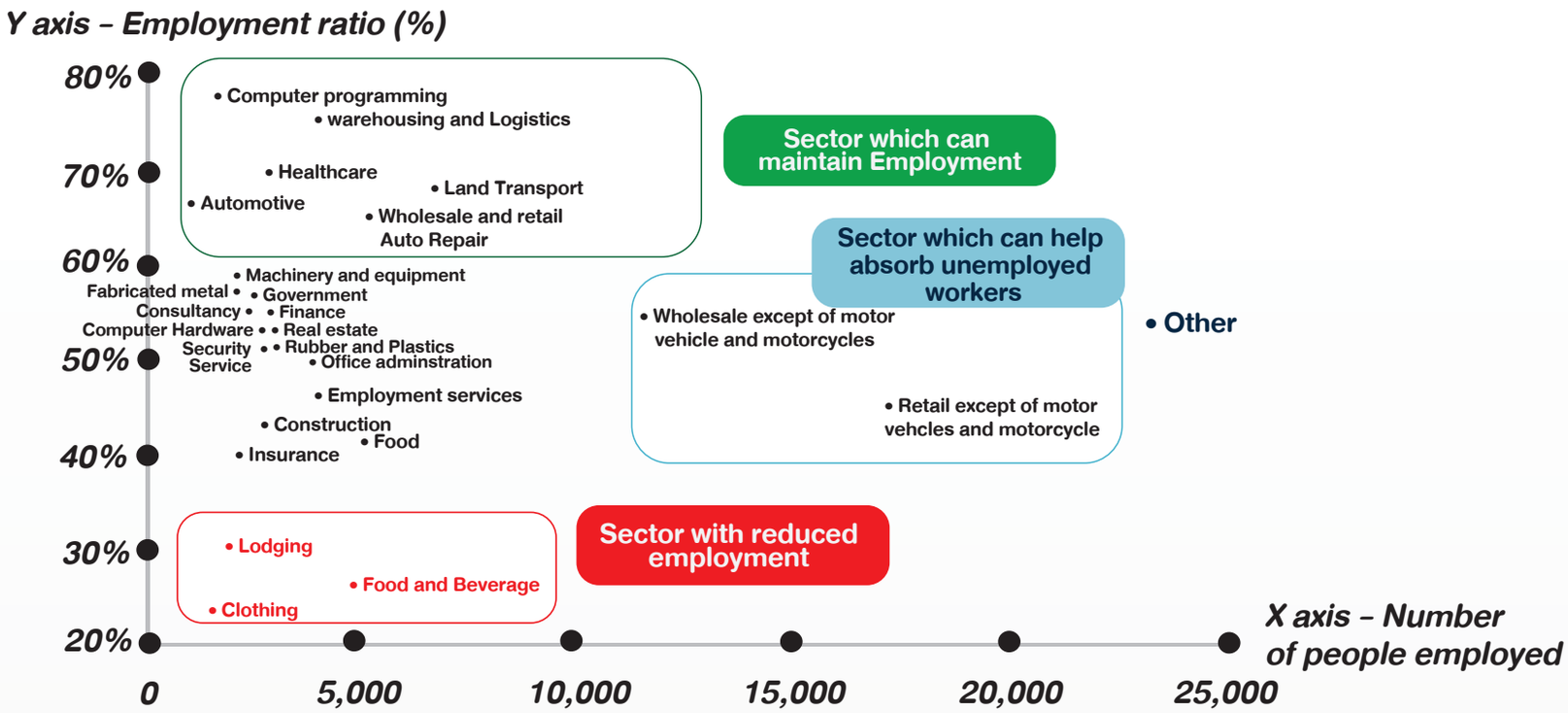
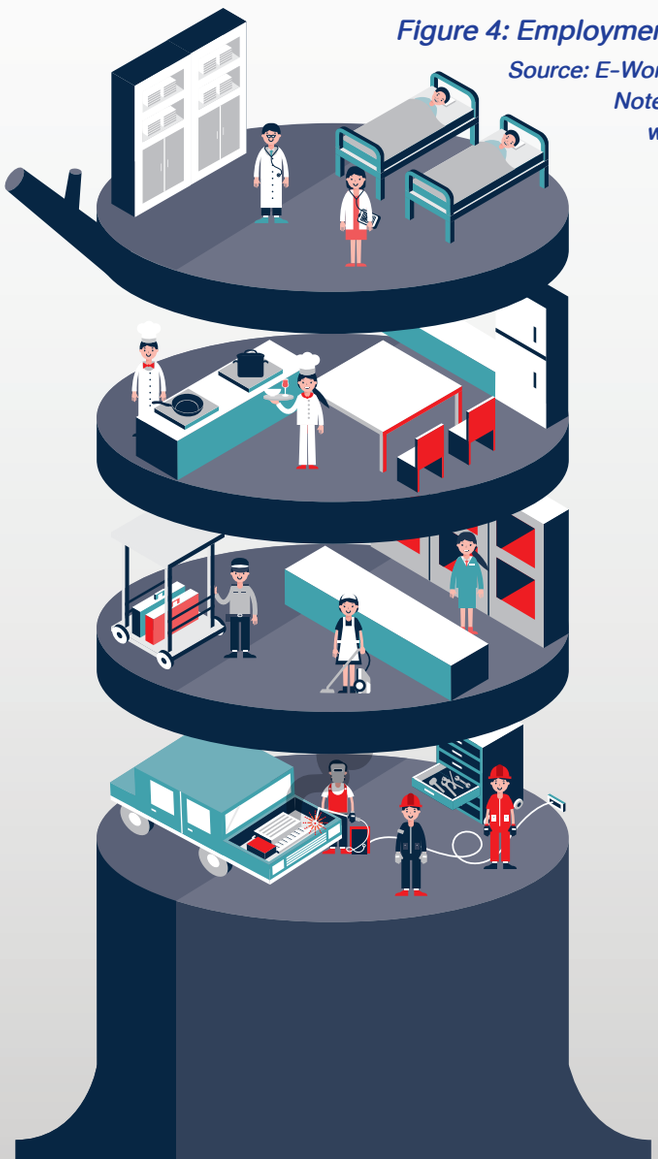


Figure 4: Employment ratio and number of people employed by sectors

Source: E-Workforce Ecosystem Sandbox, calculations by BOT
Note: Data covers 102,384 TPQI's trainees who are in the social security system



Analysis of the data, available in **E-Workforce Ecosystem Sandbox,** of over 100,000 TPQI's trainees who are in the social security system found that COVID-19 has uneven effects on different economic sectors (Figure 4) as follows:

- Tourism related sectors are hardest hit and left with very low employment ratio of only 30 percent in lodging and 23 percent in food and beverage services sectors.
- Sectors that are able to maintain employment are computer programming, warehousing and logistics, healthcare, automotive, land transport and auto repair.
- There are some sectors that have moderate employment ratio but employ large number of workers. They are wholesale and retail. These sectors should be able to help absorb unemployed workers from other sectors.

What can E-Workforce Ecosystem Sandbox tell us?

Courses that trainees are more likely to be employed	%corr	
Logistics	38%	s-curve industries
Digital industry	30%	
Human resource management	23%	
ICT and digital content	23%	
Environment and hazardous substance	23%	
Medical bioengineering	21%	
Auto services		
Education services		
Wellness services (except sports)		
Molding manufacturing		
Mechatronics		
Beauty and wellness		
Real estate		
Metrology		
Photography business		
Services and public utilities		
Community transport		
Aviation		

Courses that trainees are less likely to be employed	%corr	
Tourism, hospitality and restaurant	-66%	Temporarily affected by COVID-19
Beauty	-50%	
Agriculture	-45%	
Rail transport	-45%	
Financial services	-30%	Demand could be higher in s-curve industries in the future
Energy and renewable energy	-29%	
Digital literacy	-26%	
Green space management	-26%	
Food and beverage manufacturing	-20%	
Biotechnology	-20%	
Retail	-20%	
Printing		
Health services		
Construction		
English language competency		
Cleaning services		
Security services		
Facilities management services		

Source: E-Workforce Ecosystem Sandbox, calculations by BOT

Note: Correlation coefficient (% corr) reflects the possibility of trainees to be employed after completion of the courses from -100% (unemployed after training) to 100% (employed after training)

Figure 5: Training courses that the trainees are more or less likely to be employed

Choices of training courses are correlated to the possibility of being employed during crisis (Figure 5)

- At present, workers who received trainings in logistics, digital industries and ICT and digital content are more likely to be employed. This is in consistent with the growth of e-commerce and logistics businesses as well as digital services that has increasingly been more critical when people have to work from home.
- Workers who received trainings in services especially those related to tourism are less likely to be employed. These training courses are, for example, tourism, hospitality, restaurant, beauty, etc.

Skills Development for Employability

Analysis of data made available by ***E-Workforce Ecosystem Sandbox*** suggests that mechanisms to facilitate skills development for employability are critical tools to assist people who are unemployed because of their lack of skills or qualifications which match the job vacancies. These mechanisms must be linked to demands in the labor market either physically or through online platforms, for which multiple approaches can be adopted.

The first approach is to create training courses based on the actual data of skills needed in the labor market without having to wait until there are job seekers who are left without job on the job matching platform (Participants in the training courses may be those from other platforms or those not in TPQI's professional qualification system).

Second is when there are a number of job seekers left without job on the job matching platform and there are enough demand for workers with specialized skills, a system to recruit those job seekers to receive trainings on the specialized skills can then be created.

Both approaches can be used simultaneously as long as they serve the target group (Figure 6).

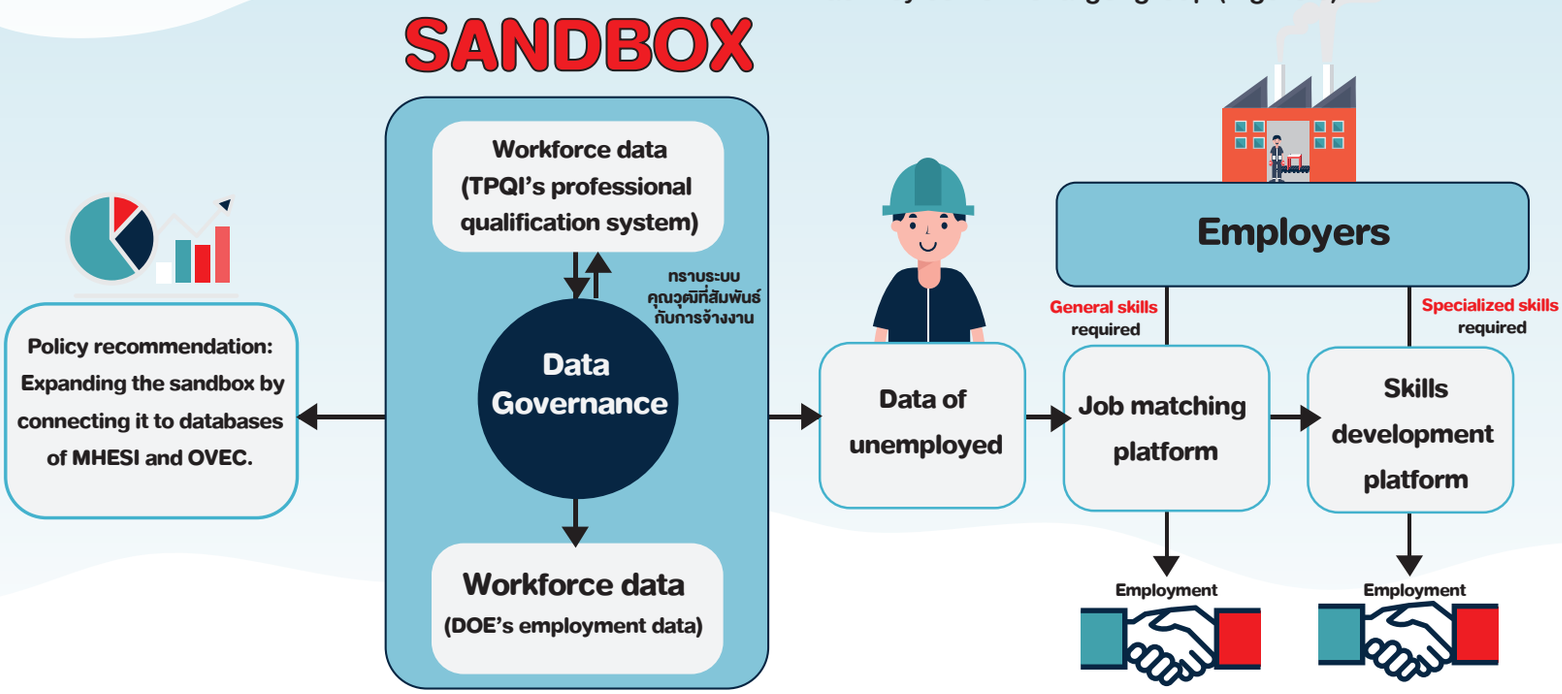


Figure 6: Linkages between the sandbox and job matching and skill development platforms as well as policy recommendation

Skills Development for Employability

Training courses offered by the MHESI and EEC

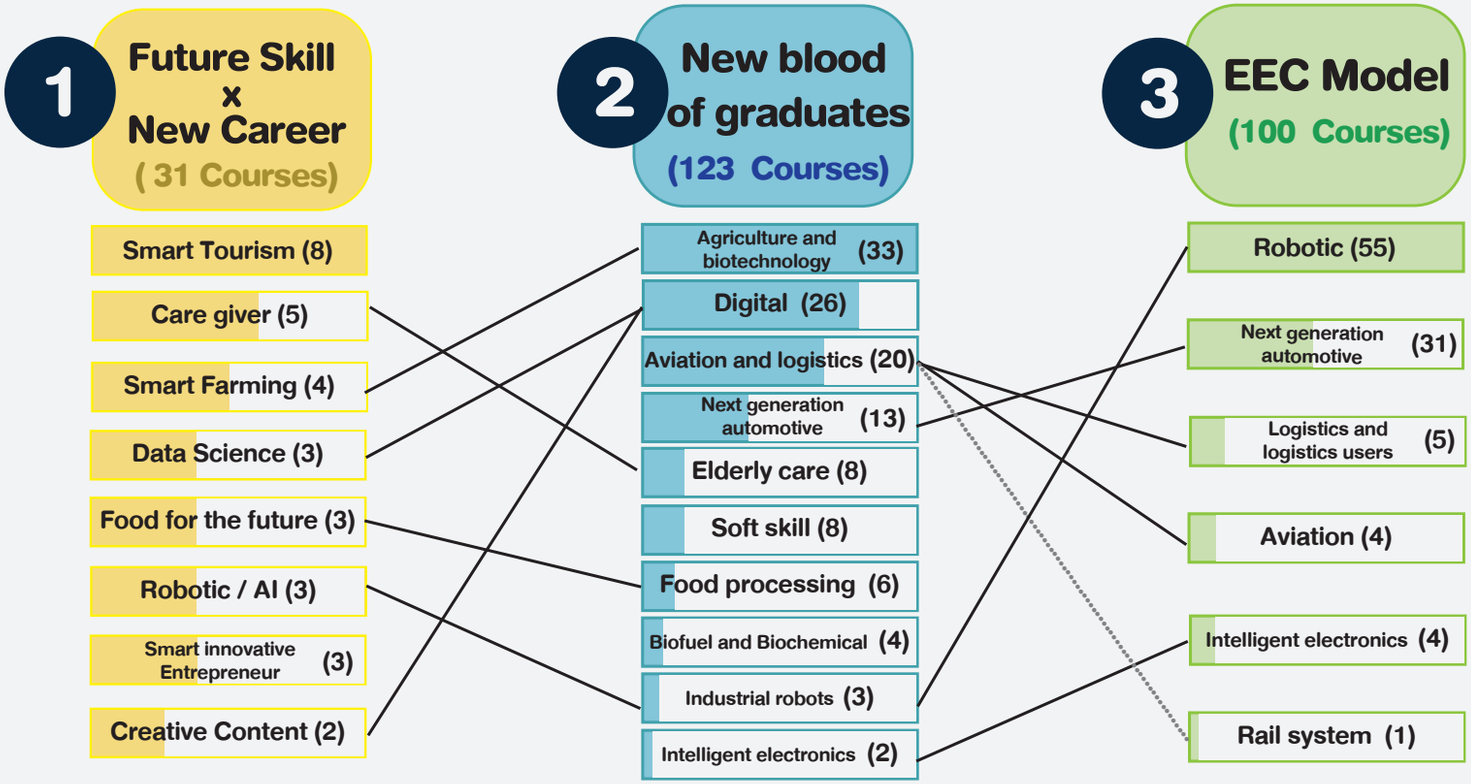
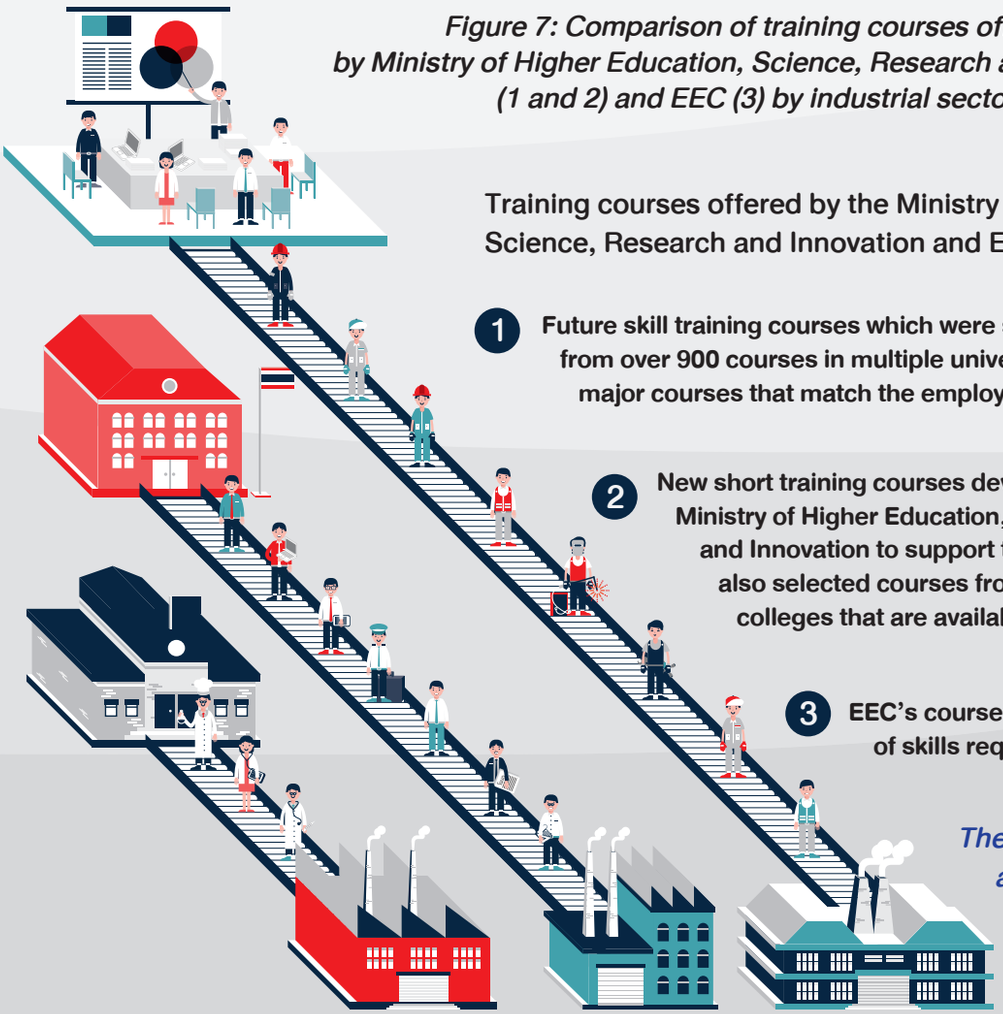


Figure 7: Comparison of training courses offered by Ministry of Higher Education, Science, Research and Innovation (1 and 2) and EEC (3) by industrial sectors



Training courses offered by the Ministry of Higher Education, Science, Research and Innovation and EEC comprise:

1. Future skill training courses which were selected from over 900 courses in multiple universities, especially major courses that match the employers' needs.

2. New short training courses developed by the Ministry of Higher Education, Science, Research and Innovation to support target industries. There are also selected courses from multiple universities and colleges that are available to the public.

3. EEC's courses to support the development of skills required in EEC

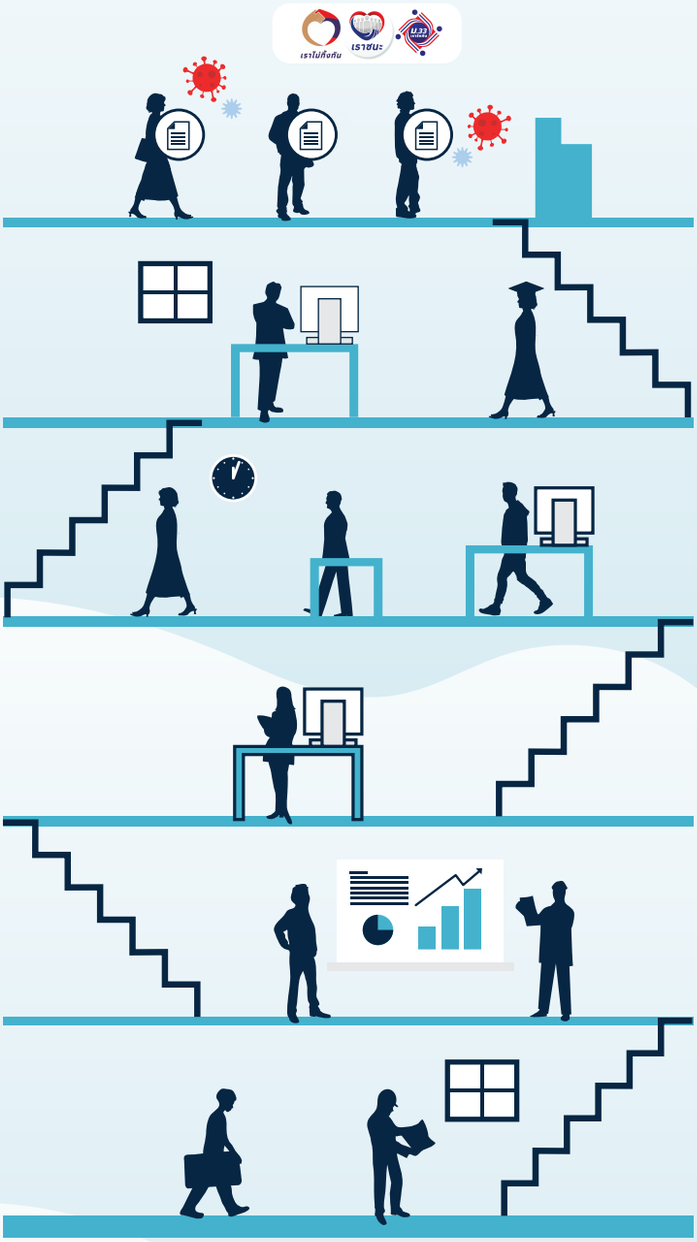
These training courses reflect the direction and future trends of skills needed by the employers.

Department of Employment's online services

The Department of Employment offers services for job seekers through a Job Demand Open Platform which has 7 distinctive features:

- **Scattered job vacancies in the private sector are now put in one place.** This is made possible by the cooperation from the first batch of 5 job agencies, namely Adecco, JobBkk, Jobtopgun, Jobnow and Manpower. Job vacancies in the public sector are also provided by the Office of Civil Service Commission.
- **Artificial Intelligence is used** to analyze data so that job matching is made more efficient.
- **Services from multiple agencies are provided through a single window.** These include services from the Social Security Office and the Department of Empowerment of Persons with Disabilities, which make it more convenient for both service providers and users to be able to access and track all data in real time.
- **"Thai Mee Ngan Tam or Thais Have Jobs" mobile application** which provides people with convenient access to services and updated useful information
- **Digital services are put in one place** so that they can be accessed with single username and password.
- **Automatic notifications** can be generated through data linkages between relevant agencies, including those related to workforce development.
- **Data is stored systematically** so that it can be analyzed more efficiently and can be accessed and tracked in real time on website.

Policy Recommendations



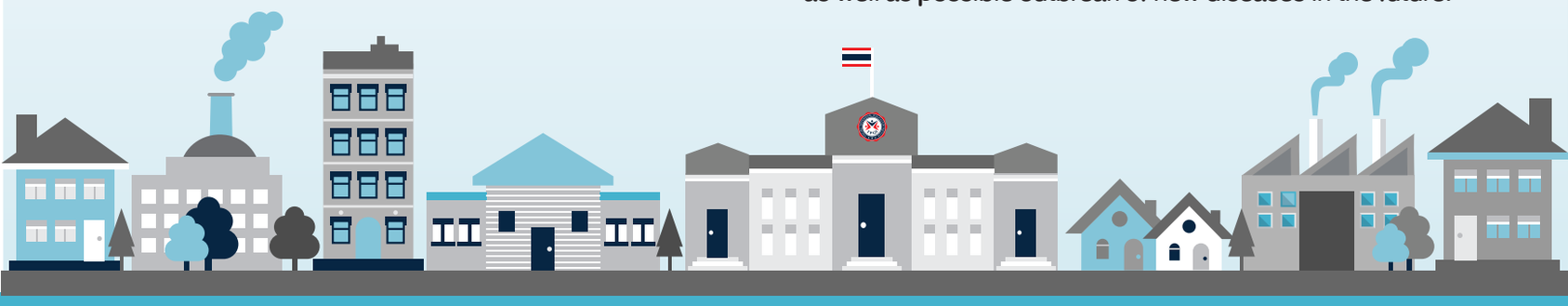
1. **Existing data on workforce such as data from the government's COVID-19 relief schemes** (No One Will Be Left Behind, We Win, We Love Each Other, cash handout to farmers and employers and workers in lockdown areas) should be linked together on E-Workforce Ecosystem platform so that assistance can be directed to the right target groups and is in line with the needs of the labor market. This will also be helpful for workforce development planning in the future.

2. **The cooperation between the Ministry of Labour and the Ministry of Higher Education, Science, Research and Innovation** should be further expanded to ensure continuous skill development and the employability of the new graduates, i.e. there should be an analysis of the employability of the new graduates by the Ministry of Labour, sharing of unemployment data to improve skill development programs, close collaboration with employers to promote more employment, especially in high-skilled or shortage occupations, and cooperation on evidence-based policy making to manage the labor market. The expansion of cooperation should also include linking of databases on labor market, education and trainings.

3. **Mechanisms to promote employment should be promoted in more diverse sectors,** especially in high-skilled sectors.If there are skill shortages, the government should support the skill development programs on a cost-sharing basis with the employers.

4. **Measures to support individual's skills development should be initiated,** especially for shortage occupations. The skill development programs should be designed in collaboration with the employers and qualified training organizers should be carefully selected.

5. **Culture of lifelong learning should be promoted among people of all ages** as everyone needs to be prepared for changes caused by the volatility and risks from the uncertainty of the global economy and financial system as well as possible outbreak of new diseases in the future.



E-Workforce Ecosystem Sandbox

E-Workforce Ecosystem Sandbox is a critical infrastructure for implementing government agencies to jointly design measures in response to economic and financial crises with appropriate data governance. It is capable of integrating the fragmented works among government agencies and between the public and private sectors to optimize Thailand's labor market and put the Thai economy on the path towards sustainable growth.

BANK OF THAILAND
TPQI
DEPARTMENT OF EMPLOYMENT