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COMPETENCY IN THE MALAYSIAN CONSTRUCTION INDUSTRY

Construction Industry Development Board (CIDB) Malaysia
Level 10, Menara Dato' Onn
Putra World Trade Centre (PWTC)
No. 45, JalanTun Ismail
50480 Kuala Lumpur
Malaysia

asiaconstruct_my@cidb.gov.my
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EXECUTIVE SUMMARY

Competency in the Malaysian Construction Industry has been a major concern in view that Malaysia is rapidly growing towards the realisation of an aspiration of becoming a developed nation by 2020. The implementation of the 11th Malaysia Plan dictates the intensification of construction of mega infrastructure projects such as the Light Rail Transit and Mass Rapid Transit (MRT) mass public transportation in the Klang Valley, Malaysia's pulsating nucleus of economic activities. To enhance cross border connectivity and further boost trade, high impact projects like the Kuala Lumpur-Singapore High Speed Rail (HSR) are in the pipeline for implementation. These projects involve the use of high technology and engagement of specially qualified construction personnel to complete. Another ongoing major, high impact infrastructure project that is transforming the connectivity landscape in Sabah and Sarawak is the 2,239km Pan Borneo Highway. Other equally important infrastructure projects are the developments of sewerage and, power plants; and various non-residential as well as residential projects. Quality finishes and cost effective maintenance are outcomes of a good balance in employment of resources in a project development, especially that of construction workers. This is where competency becomes a concern.

The lack of available domestic pools of construction personnel has long led developers in Malaysia into resorting to the employment of foreign workers. Most of these workers are unskilled and need consistent supervision to ensure they perform in compliance to construction industry requirements. Ensuing problems from the engagement of these unskilled and to some extent, semi-skilled, workers does not only involve work quality issues but also costly work site accidents. On this observation, Construction Industry Development Board (CIDB) Malaysia took an initiative to monitor the employment of foreign and local workers and formulate ways of reducing unforeseeable work site incidences. Hence the Personnel Registration whereby these workers are obliged to undergo safety at work training programmes prior to being allowed access to a project work site. This means only Personnel Registration Card holders may be engaged in construction projects in Malaysia. However, this does not vastly improve the situation for work quality. As the numbers of construction personnel grew invariably to 1.3 million in 2016, CIDB took a further initiative in its proposal to define "skills competency" as an effort to enhance quality of work. Upon the establishment of a definition for "competency", regulations for the engagement of construction personnel at work sites are made more stringent as stipulated under section 33A(1) of Act 520 : "No construction site supervisor or skilled construction worker shall be involved or engaged, or undertake to be involved or engaged as a construction site supervisor or skilled construction worker unless he is accredited and certified by the *Lembaga* (Board) and holds a valid certificate issued by the *Lembaga* (Board) under this Act."

The government's Technical and Vocational Education and Training (TVET) programme has 8 agencies involved in construction personnel competency training. This paper "Competency in the Malaysian Construction Industry" aims to share with fellow delegates the proposed initiative by CIDB in collaboration with the respective professional boards, and training institutions to develop industry-relevant training modules, establishment of assessment centres; and supporting skilled trade apprenticeship programme for specific courses. All in the effort of ensuring construction personnel's "competency" in an industry that is a major driver for Malaysia's continuous economic development and wellbeing.

INTRODUCTION

Overview of the Malaysian Construction Industry

In 2016, the Malaysian economy recorded a growth of 4.2% (2015: 5.0%), with a moderate growth of 7.4% (2015: 8.2%) in the construction sector. The construction sector contributes 4.5% or about RM50.1 billion to the Malaysian GDP (2015: 4.3%; RM46.6 billion). This sector is expected to contribute about 5.5% until 2020.

There are 1.3 million construction personnel or about 8.9% of Malaysia's total workforce (14.2 billion) in 2016. This proves that the construction industry provides an extensive array of career and business opportunities to the Malaysian population. Growth is driven by the increasing demand from infrastructure projects such as MRT, LRT and electrified double rail tracking; highways; sewerage; power plants; and various non-residential and residential projects.

Definition of Competency

CIDB is the regulatory body for the construction industry in Malaysia. CIDB is responsible for the various developments and activities associated with the construction industry, including the assessment of construction personnel.

CIDB has proposed to define construction skills' competency as:

"*the ability of a construction personnel to perform successfully the construction tasks within a certain work-scope in accordance to the required competency standards as specified in the National Occupational Skills Standards (NOSS) or other equivalent competency standards as recognised by CIDB"*.

The construction personnel who achieved the required level of competency will be recognised as a Construction Competent Person (CCP). The recognition process

requires the certification and accreditation by CIDB. According to *Lembaga Pembangunan Industri Pembinaan* Malaysia 1994 (Act 520), Section 2(1) the definitions certification and accreditation is stipulated as:

"certification" means a procedure by which the Lembaga (Board) or any person authorised by it gives written assurance that a process, practice or service conforms with specified requirements

"accreditation" means a procedure by which the Lembaga (Board) or any personal authorized by it gives formal recognition that a body or person is competent to carry out a specific task relating to the construction industry

At the same time, no worker can be engaged in the construction without accreditation or registration as a construction personnel. CIDB is responsible for the accreditation of construction personnel. Under the Act 520, Section 33A (1) specified that:

"No construction site supervisor or skilled construction worker shall be involved or engaged, or undertake to be involved or engaged as a construction site supervisor or skilled construction worker unless he is accredited and certified by the Lembaga (Board) and holds a valid certificate issued by the Lembaga (Board) under this Act."

This article focuses on level 1 to 3 of competency levels, or semi-skilled and skilled construction personnel. The construction personnel with competencies higher than level 3 such as the Project Manager and the Construction Safety & Health officer will not be covered in this article.

INITIATIVES IN DEVELOPING COMPETENCY

Generally, most construction personnel in Malaysia were employed based on their skills gained through experience at the construction site. These construction personnel did not go through the formal approach of obtaining competency certificates. As far as the employers or clients are concerned, these construction personnel were deemed to be competent, and entrusted to perform construction works.

Additionally, there are no specific "map" or chart to guide the apprentice on a career path in the construction industry. Due to the absence of fixed guidelines, the apprentices are left to decide on their own. Tendencies are they enrol in courses advised by family and friends. Most of them who are also not familiar with the level and types of occupations in the construction industry. Upon their graduation from the construction-related courses, graduates are clueless on the direction of their career.

Currently, the government Technical and Vocational Education and Training (TVET) has 8 agencies using different sets of standards in competency training. This anomaly in standardisation creates confusion among TVET training institutions, construction personnel and employers. TVET also faces limited recognition by employers. Though TVET has steadily produced graduates, it is not a popular choice amongst apprentices due to its sceptical perception by prospective employers.

***Lembaga Pembangunan Industri Pembinaan* Malaysia 1994 (Act 520)**

On the subject of competency development, CIDB is responsible for the regulation and monitoring of competency. This covers construction personnel, assessors, institutions, modules and standards. At the same time, CIDB also has the authority to suspend and revoke the accreditation of the parties involved. This is specified under Section 33B (1) of Act 520 as follows:

The Lembaga (Board), for the purpose of training, accreditation and certification of construction personnel may –

a) establish, promote and accredit training institutions
b) establish a body to carry out evaluation or assessment or to conduct examination of the training institutions
c) establish a body to develop, monitor and modify the curriculum as to the courses of studies, standards and training programmes offered by the training institutions
d) give formal recognition and written assurances including awarding certificates and any other qualifications to the training institutions
e) suspend or revoke the accreditation of training institutions for contravening or failing to comply with the conditions of the accreditation and
f) do any other things which the Lembaga (Board) deems expedient or necessary for the purposes of this Part

In general, construction personnel are categorised into 6 categories, consisting of semi-skilled and skilled construction workers. This is clearly defined under Section 2(1) of Act 520 as follows:

"construction personnel" means

a) general construction workers
b) semi-skilled construction workers
c) skilled construction workers
d) construction site supervisors
e) construction project managers and

f) any other employee in construction industry as may be determined by the Lembaga (Board).

"skilled construction worker" means any employee possessing the accepted level of skill, knowledge, qualification and experience of one of more of the trades as determined by the Lembaga (Board) and listed in the Third Schedule

"semi-skilled construction worker" means any employee possessing the accepted level of skill, knowledge, qualification and experience of one of more of the trades as determined by the Lembaga (Board)

Eleventh Malaysian Plan

The Eleventh Malaysia Plan (11MP) is a 5-year development plan from 2016 to 2020. It describes the initiative by the government in which all contractors are encourage to enhance their competency skills by undertaking training and development programmes organised by CIDB. A rating system to assess the competency of these contractors will be established to ensure that only capable and competent contractors are selected for government projects in Malaysia.

The strategies to enhance knowledge content in the construction industry include increasing the quality of human capital, accelerating capacity and capability building of Small and Medium Enterprises (SME) contractors. Among key initiatives include fostering greater collaboration between Construction Industry Development Board (CIDB), the respective professional boards, and training institutions to develop industry-relevant training modules, establishment of assessment centres and supporting skilled trade apprenticeship programme for specific courses.

This will involve a paradigm shift in the thinking and approach. The functions of Construction Academy of Malaysia (ABM) will be converted into pure assessment centres. The training functions of the ABM will gradually be ceased and the obligation for trainings will be shouldered by Technical and Vocational Education and Training (TVET).

Construction Industry Transformation Programme

The Construction Industry Transformation Programme (CITP) is a 5-year plan, implemented simultaneously along 11MP. The CITP provide direction and espouse the aspiration of construction industry. Four strategic thrusts have been identified to guide the transformation and continued development of the industry, with the following objectives:

i. Thrust 1: Quality, Safety and Professionalism
Ingrain the culture of quality, safety and professionalism into the construction industry.

ii. Thrust 2: Environmental Sustainability
Drive Malaysia's environmentally sustainable construction.

iii. Thrust 3: Productivity
Double the industry's productivity, matched with higher wages.

iv. Thrust 4: Internationalisation
Develop Malaysian champions to lead the action locally and globally.

Productivity Thrust had identified 6 initiatives to uplift the workforce, technology and productivity. The first initiative is to address *continued investment in human capital development in construction*. There are 8 key performance indicator (KPI) to achieve as follows:

i. All construction related training programs and institutions streamlined and registered by CIDB by Q4 2018;
ii. Top 10 highly demanded skilled trades have training need analysis, occupational analysis and training maps by Q4 2018;
iii. 5,000 on-the-job apprentices produced by Q4 2020;
iv. 15,000 supervisory and management personnel (including QA/QC, site safety etc.) trained and certified by Q4 2020;
v. 100,000 construction personnel completed Continuous Professional Development training by Q4 2020;
vi. 100,000 construction personnel graduated in construction related skills and accredited by Q4 2020;
vii. 2 assessment centers in major foreign worker source countries established by Q4 2018; and
viii. 200 competency related documents completed and 200 trainers undergo train the trainer program by Q4 2020.

CITP recommended a broadening of the reach, effectiveness, and comprehensiveness of training and development for workers, professionals, and personnel in the industry. Key areas of enhancement involve conducting curricular reviews and development of improved curricular and training modules materials; to ensure that content is streamlined and up-to-date with industry development and requirements. Efforts will

be made to increase the quality of trainers and training providers in collaboration with industry experts.

National Occupational Skills Standards

National Occupational Skill Standards (NOSS) is the benchmark for vocational competencies. National Vocational Training Council (NVTC) is the administrator of the NOSS. CIDB started using NOSS in the late 1990s. CIDB was also appointed by Department of Skills Development (DSD), as the leading body to facilitate the development of competency standards for construction industry.

Since then, CIDB has produce 130 NOSS for the construction industry. The development of NOSS involves expert facilitators from several departments under DSD and other facilitators from various industries. It has since been de facto standard used by the industry.

Technical and Vocational Education and Training (TVET)

The establishment of Technical and Vocational Education and Training (TVET) has evolved through the years. The TVET play an important role in establishing vocational competencies, and is responsible in spearheading vocational capabilities.

Among others, TVET's objectives are listed below:

i. To give a second chance for learners who were not academically-inclined to pursue an alternative career path where they will be given vocational training; and
ii. To train and certify the learners for vocational training and to impart knowledge that will transform them into skilled workers.

FUTURE INITIATIVES IN COMPETENCY

Assessment Process

The assessment process is a procedure whereby the construction personnel is tested in order to be certified. These assessments are conducted and evaluated by assessors, also known as the Construction Competency Assessors (CCA). The quality of the assessment process is assured from the beginning until the end with internal and external verification processes. The assessment result is subjected to internal verification process, which is carried out by the Construction Competency Internal Verifiers (CCIV). In turn, the CCIV results will be verified by the Construction Competency External Verifiers (CCEV). This provides quality assurance,

substantiating that the procedures and steps are correctly followed during the assessment exercise. CCA, CCIV and CCEV are subject-matter experts who are highly competent in their own respective trade, and are appointed, certified and accredited by CIDB.

The assessment process will be conducted as follows:

i. The construction personnel to be assessed for a Construction Industry Occupational Titles (CIOT) will register through the Competency Management System (CMS) portal or, assessment centres;
ii. A CCA will be appointed and will meet the candidate at the agreed appointed time and assessment centre. Both the CCA and candidate should agree on the assessment scope and plan. This plan will specify among others, the knowledge and practical tasks that need to be completed. The assessment process must be conducted on a one-to-one basis.

iii. Typically, the knowledge test will proceed first. The knowledge tests can be in the form of a written test. For the practical test, CCA will first prepare the materials. The candidate will need to confirm that the materials or equipment are correct, adequate and in order before agreeing for the practical assessment to be carried out. If the candidate agrees, then the practical test will commence;
iv. The CCA will disclose the results to the candidate immediately, whether they are competent (C) or Not Yet Competent (NYC);
v. The certification will be issued to the candidate by CIDB upon the CCIV and the CCEV consensus with the CCA's recommendation; and
vi. If successful (C), the candidate is required to register as Construction Competent Person (CCP) at CIDB.

The ABM assessment centers are located in 6 different locations to make it easier and accessible for candidates to undergo various construction-related assessments.

Review of National Occupational Skills Standards

The NOSS forms the basis and the backbone of all the assessments and the training exercises. The NOSS is basically a set of documents with the following items:

i. Construction Industry Occupational Titles CIOT and its description;
ii. Construction Industry Occupational Structure (CIOS) that defines the levels of competency of each trade or specialisation in the construction industry;
iii. Step-by-step analysis of the tasks involved in the CIOT; and

iv. Specific standards the construction personnel have to achieve in order to be certified.

The existing NOSS is currently being reviewed for standardisation. The actions to be taken include the following measures:

i. The competency assessments, verifications and training programmes of NOSS must also be consistent with CIOT. This will ensure that the construction personnel who are certified from these programmes will be registered or accredited as construction personnel;
ii. Update the existing NOSS so that they are current and consistent. The new NOSS must also keep up with the new technologies, services and techniques in the training discipline;
iii. Examine the existing set of NOSS to ensure competency standards are sufficient and cover the requirement of a particular CIOT. The subject matter experts will provide their inputs to decide whether the competency standards are according to their expectations;
iv. The subject matter experts need to check and verify that the existing NOSS are still valid and relevant to the construction industry. If not, NOSS needs to be reviewed for updates;
v. Decide on the standard formats to be utilised. This enables construction personnel to understand the requirements of the competent persons and also the requirements to enhance their skills; and
vi. In formulating NOSS, the competency standards must comply with the Principles of the Development of Competency Standards (SMART-VSC) guidelines which states following the rules of Specific; Measurable; Achievable; Realistic; Time-Based; Valid; Sufficient; and Current.

The existence of NOSS allows TVET and assessment centres to complement each other, and would be able to produce their own training paths, syllabi and training modules for CIOT. At the same time, NOSS is a valuable aid for TVET in preparing their trainees for the impending and upcoming assessments.

Construction Industry Occupational Title

The Construction Industry Occupational Titles (CIOT) is a set of industry-related occupational titles, specific to the construction industry. Originally, National Vocational Training Council (MLVK) used the term "Occupational Titles" ("OT"). However, CIDB has proposed to change the term from "OT" to "CIOT" to reflect its relevance and exclusivity to the construction industry.

CIOT was developed in a study to identify all the occupations or trades in in the construction industry. The study was made in 2016, attended by subject-matter experts. This resulted in the identification and listing of 509 occupations in the construction industry. The listing provides important information not only for the employers, assessment centres and training providers but also for the general public.

CIOT with trade/ specialisations that have been identified are as follows:

i. Scaffolders.
ii. Welders 3G and 6G.
iii. Wireman PW1, PW2, PW3, PW4.
iv. Chargeman A0, A1, A4, B0, B1 and B4.
v. Gas Pipe Fitter.
vi. Blasters and Painters.
vii. Non-Destructive Testing (NDT) Operators.
viii. Crane Operators.
ix. Plant Operators.
x. Plumbers.
xi. Air conditioning Installers.

The evolution of CIOT is acutely associated to the development of construction-related NOSS. Therefore, it is important to comprehend the history of NOSS in order to understand CIOT.

Coordination of Technical and Vocational Education and Training

The functions of the TVET are as follows:

i. To provide very systematic and organised construction skill courses, carried out by competent trainers;
ii. To produce more local skilled and semi-skilled construction workers to reduce dependencies on foreign labours.; and
iii. To produce a productive workforce, with a high awareness for safety; quality oriented and efficient to cater the needs of an ever- progress evolving construction industry.

The 8 government TVET agencies currently involved in the competency training of the construction industry workforce are:

i. *Akademi Binaan Malaysia* (ABM).
ii. *Kolej Komuniti.*
iii. *Pusat Giatmara.*
iv. *Institut Latihan Perindustrian* (ILP).
v. *Institut Kemahiran MARA* (IKM).
vi. *Institut Kemahiran Belia Negara* (IKBN).
vii. Advance Technology Training Centre (ADTEC).
viii. Federation of JPK Accredited Centers (FeMac).

Among the various challenges faced by TVET are:

i. Different sets of accreditation ratings by agencies

There are 2 agencies with different sets of accreditations; The Malaysian Accreditation Agency (MQA) under the Ministry of Higher Learning (MHL); and the Department of Skills Development (DSD) under the Ministry of Human Resources (MOHR). In addition, the employers also faced problems in selecting competent candidates as each TVET agency claims that their training programmes meet NOSS standards.

Among the different sets of competencies standards being utilised by TVET are:

a. National Occupational Skills Standards (NOSS) competency standards by DSD;
b. Competency standards by American Welding Society (AWS);
c. Competency standards by the American Society of Mechanical Engineers (ASME);
d. Competency standards by Electrical Inspectorate Unit (EIU);
e. Competency standards by the Energy Commission Malaysia (EC);
f. Competency standards by Sustainable Energy Development Authority Malaysia (SEDA Malaysia);
g. Competency standards by Pusat Giatmara; and
h. Competency standards by DOSH.

Each of these regulatory authorities has their own competency standards. The anomaly in TVET programmes create confusion among construction personnel. Among the proposed solutions to resolve the issues are:

a. *Standardisation of the competency standards*
One of the suggestions is to re-brand the construction related NOSS. For example, NOSS for the construction occupational titles will be re-named the Construction Industry Competency Standards (CICS).

b. *Standardisation of NOSS format*
The intention is to have the NOSS in a standard format. The standard format will avoid confusion in construction personnel who would like to

enrol in career advancement training programmes. The format will also be used as reference material for TVET agencies and relevant authorities.

c. *The adoption of CIOT by TVET and assessment centres*
An emphasis is laid on the inclusion of the titles Construction Industry Occupational Titles (CIOT) on all competency certificates issued and not the name of the courses. This is to ensure that these certified personnel can be registered as competent construction personnel at CIDB according to their specific competencies, as stipulated in schedule 3 of Act 520. Most times ambiguous certificates and occupational titles of courses are reasons for the construction personnel's inability to get registered.

d. *Governing body on construction competency*
CIDB will be the exclusive administrator of NOSS for the construction industry. At the same time, CIDB will also be the reference centre on all matters pertaining to competency and the training aspects within the construction industry.

To ensure smooth implementation of training and competency assessments, CIDB have proposed the following actions:

a. CIDB will initiate discussions with other governing bodies, namely, Department of Occupational Safety & Health (DOSH) and the Energy Commission Malaysia (EC); for the purpose of streamlining the competency requirement. There is also a probability that CIDB will not be entrusted with the entire certification of all CIOT assessments except for those that are under the purview and enforcement of their own regulations.

b. The competency standards, such as NOSS or other equivalent competency standards will be constantly reviewed. To ensure that the competency standards are truly in line with the expectations of employers, this must be done with the participation of subject-matter experts from the construction industry. The reviews will ensure that the competency standards remain relevant and up-to-date with the changing times.

The solution is to have a single qualification system adopted by MQA and DSD, as proposed under the 11MP. CIDB will lead and manage the construction industry competency accreditation system, which includes consistent formats on all competency standards, as stipulated in the Act 520.

ii. No specialisation among the TVET institutions

There is no specialisation among the TVET institutions. Currently, the government-run TVET has eight agencies involved in the competency training of the construction industry. These TVET agencies utilise different competency standards. This inconsistency needs to be addressed and the competency standards need to be made consistent and standardised.

The solution to this inconsistency is to create centres of excellence in their niche areas of expertise. Streamlining the existing TVET will be a priority exercise. Following discussions with TVET, the streamlining exercise will be led and coordinated by CIDB. As of May 2017, CIDB has held several dialogues and discussions with the government-run TVET under the Construction Industry Competency Forum (CICF). A few decisions were made, among others:

a. TVET will provide the information to CIDB regarding their courses being offered;
b. TVET will coordinate with, and be advised by CIDB before any future course can be offered to the public. This will ensure that the courses offered are indeed in line with the aspirations as detailed in CITP and 11MP; and
c. TVET's existing hardware, infrastructure as well as the resources such as the number of instructors, equipment, tools and machines for training will be studied by CIDB.

CIDB will liaise with the respective TVET authorities to identify and recommend optimal solutions on high-impact trades/ specialisations. These resources will ascertain the viability of TVET as a solution centre.

iii. TVET limited recognition

There is limited recognition and low premium placed by the employers on TVET. Employers must put priority on TVET graduates, as preferred workers. Even though TVET has steadily produced graduates, it is not a popular choice among prospective students due to its perceived unpopularity among employers. Therefore, efforts must be taken to boost the reputation of TVET, as the leading body to train skilled construction personnel.

The solution is to enhance the perception and persuade the employers that these TVET meet the construction industry's competency standards through more publicity, advertisements, promotions and road shows. The emphasis on TVET by employers will propel enrolment of students, and the construction

industry as a career of choice. Consequently, this will also increase the confidence on TVET as the preferred institution.

TVET are expected to meet the construction industry demand with the following improvements:

a. Strengthening the governance of TVET for better management;
b. Enhancing the quality and delivery of TVET programmes to improve graduate employability; and
c. Rebranding TVET to enhance its appeal.

Competency Training Map

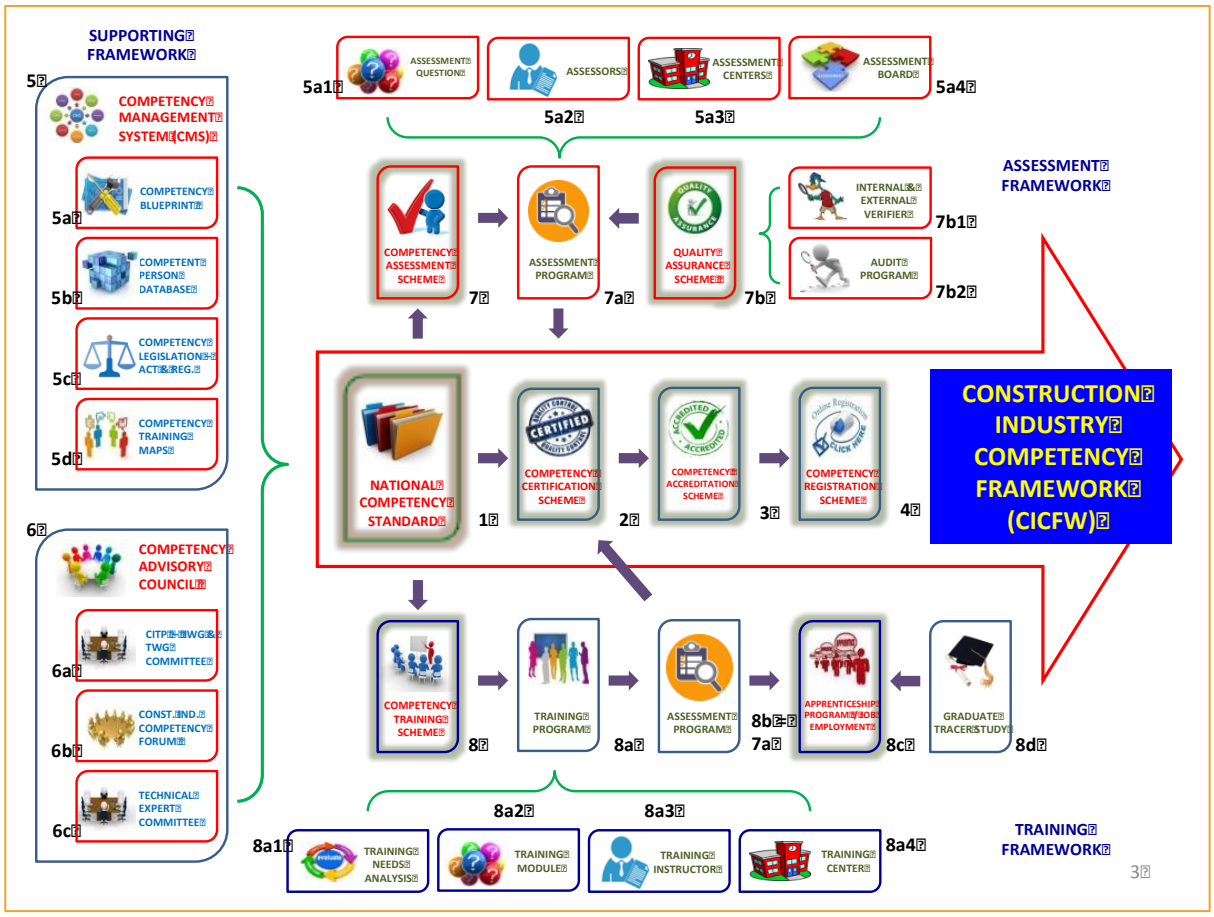
The Competency Training Map explains the available routes to become a Construction Competent Person (CCP). The Competency Training Map serves as a guide to a series of levels of career or competency in the chosen field or trade. The main idea is to facilitate the CCP candidate in tracing their current progress and potential levels of competency for the future.

The Competency Management System (CMS) is a tool utilised to enhance the Competency Training Map, simultaneously providing a database of the skills, particularly the levels and expertise obtained by the construction personnel. The CMS also includes a register of training centres and courses nationwide. This database will provide construction personnel the means to track their progress and the path to advance their skills.

Construction Industry Competency Blueprint

The Construction Industry Competency Blueprint (CICB) is currently being drafted. This document will be the principal reference for the construction industry to chart the direction of competency (Chart 1).

Chart 1: Competency Industry Competency Framework



In essence, the CICB will consist of the following components:

i. The identification of the CIOT in the construction sector. The CIOT are categorised according to the construction works by the subject matter experts. Among others are Building, Power, Road, Marine/Waterways, Potable Water, Oil & Gas, Railway, ICT, Demolition and Sewerage;

ii. The formulation of the Competency Training Map as a reference for the construction personnel to advance or further their existing skills or competence;

iii. The review of the existing competency standards and the development of new ones. The competency standards are NOSS or its equivalent as recognised by CIDB;
iv. The assessment programmes and the implementations;
v. The internal verification systems;
vi. The external verification systems;
vii. The training and implementations programmes by the training providers;
viii. The certification and implementations programmes by the assessment centres and training providers;
ix. The registration and accreditation of competent construction personnel by CIDB;
x. The Competency Management System (CMS);
xi. The legal framework to support the assessments' and verifications' procedures; and
xii. The Competency Advisory Council to monitor the progress and outcomes. There are 2 committees and a forum to present the findings; CITP–IWG & TWG Committee; and CICF. These committees along with subject-matter experts will continue to support and enhance the assessments, verifications and training aspects of the construction industry.

CONCLUSION

"Competency" in the Malaysian Construction Industry is no longer a "choice" but a vital pre-requisite across all spectrums of specialisation for construction personnel engaged in construction projects. This is in line with the advancement in construction technology being implemented as structure designs come in more sophisticated form and function. Global warming and the green house impact on the environment has set a trend for environmental friendly projects within sustainable development master plans, calling for usage of new materials, equipment and more knowledgeable personnel to execute the projects.

Malaysia is a rapidly growing nation, especially so under its 11MP. There is a time factor to meet with an aspiration of becoming a developed nation. Cities need to be built, connectivity in terms of transportation and communications also need to be provided, people need better housing, education, healthcare and employment. These are growth targets that can only be met with support from the construction industry. To provide sustainable infrastructure and auxiliary amenities, we need highly competent construction personnel. It is hoped that the CICB initiative will successfully produce a continuous supply of "competent" construction personnel to enable our nation maintain a healthy economic growth for years to come. CIDB Malaysia is committed in this endeavour to enhance our construction industry to greater heights in resource management.