OPPORTUNITIES FOR WESTERN AUSTRALIA VET PROVIDERS IN EAST JAVA

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ABBREVIATIONS

ACICIS	Australian Consortium for 'In-Country' Indonesian Studies
AIBC	Australia Indonesia Business Council
ALFI	Association of Logistic and Forwarders, Indonesia
APINDO	Asosiasi Pengusaha Indonesia (Indonesian Employer Association)
AQF	Australian Qualifications Framework
ASQA	Australian Skills Quality Authority
BPS	Badan Pusat Statistik (Central Bureau of Statistics)
CRICOS	Commonwealth Register of Institutions and Courses for Overseas Studies
DET	Department of Education and Training
DFAT	Department of Foreign Affairs and Trade
DGHE	Directorate General of Higher Education
DI/DII/DIII/DIV	Diploma 1/2/3/4
DTWD	Department of Training and Workforce Development
EJ	East Java
ELP	Endeavour Leadership Program
ESOS	Education Services for Overseas Students Act
FDI	Foreign Direct Investment
GRDP	Gross Regional Domestic Product
HIPMI	Himpunan Pengusaha Muda Indonesia (Indonesian Young Entrepreneur Association)
IA-CEPA	Indonesia-Australia Comprehensive Economic Partnership Agreement
IABC	Indonesia Australia Business Council
IELTS	International English Language Testing System
ILO	International Labour Organization
IQF	Indonesian Qualifications Framework
IR4.0	Industrial Revolution 4.0
IRC	Industry Reference Committees
KADIN	Kamar Dagang Indonesia (Indonesian Chamber of Commerce)
KOMINFO	Ministry of Communications and Information
LIPI	Lembaga Ilmu Pengetahuan Indonesia (Indonesian Institute of Sciences)
LKPM	Laporan Kegiatan Penanaman Modal (Investment Activities Report)
MENC	Ministry of Education and Culture
MOF	Ministry of Finance
MOM	Ministry of Manpower
MOOC	Massive Open Online Course
MORA	Ministry of Religious Affairs
MORTHE	Ministry of Research, Technology and Higher Education
MP3EI	Masterplan for Acceleration and Expansion of Indonesia Economic Development, 2011-2025 (Masterplan Percepatan dan Perluasan Pembangunan Ekonomi Indonesia)
NAPCO	North Australian Pastoral Company

NCP	New Colombo Plan
NSW	New South Wales
PRISMS	Provider Registration and International Student Management System
QLD	Queensland
RTA	Rural Training Australia
RTO	Registered Training Organizations
SD	Sekolah Dasar (Primary School, basic formal education, from 1st to 6th grade)
SECO	State Secretariat for Economic Affairs
SITECO	Association for Swiss International Technical Connection
SMA	Sekolah Menengah Atas (academic secondary formal education, after graduating middle school, from 10th to 12th grade)
SMK	Sekolah Menengah Kejuruan (vocational secondary formal education (referred to Vocational high schools), after graduating middle school, from 10th to 12th grade)
SMP	Sekolah Menengah Pertama (Middle School, basic formal education, after graduating primary school, from 7th to 9th grade)
SSO	Skills Service Organizations
TAC	Training Accreditation Council
TAFE	Technical and Further Education
TEQSA	Tertiary Education Quality and Standards Agency
TESOL	Teachers of English to Speakers of Languages
TIWA	TAFE International WA
TSS	Temporary Skill Shortage
TVET	Technical and Vocational Education and Training (the international term that is most commonly used in Indonesia. Throughout this report we will use VET within the context of Australia and TVET for Indonesia.
VELT	Vocational Education Leadership Training
VET	Vocational Education and Training (common term in Australia)
VSL	VET Student Loans
WA	Western Australian
WAEJUC	Western Australia East Java University Consortium

SUMMARY

This report is the result of document analysis and interviews conducted in Western Australia and East Java, and a survey and focus group interviews in East Java, in order to make recommendations regarding Western Australia Vocational Education and Training (VET) providers responding to market needs in East Java.

The data indicates that despite there being no current WA VET activity in East Java, providers are positive about the opportunities and feel they have the capacity to respond. There are many current examples of international activity by WA VET providers which indicate a capacity to be flexible, culturally sensitive and adaptable to market opportunities. This provides support for an optimistic outlook regarding the export potential of WA VET to East Java. The data also indicates that there are significant vocational training needs in East Java and a range of factors indicate that considered exploration by WA VET providers is timely.

Due to international and interstate competition in the TVET market in East Java, and the local pricing structures, entry by WA organizations will need to be focused, nuanced and niche oriented. As a result of the data analysis outlined in this report, recommendations have been made in the following areas.

- WA VET providers should seek to develop education and training links with industries in East Java in the provision of their training needs.
- The scale of the required skills training in Indonesia generally and East Java in particular, is such that flexible delivery, train-the-trainer options (including online, short courses) which capitalize on emerging technologies will have the broadest impact, and therefore will be most appealing.
- The explosion of Indonesia's digital economy presents significant opportunities for training and education in associated areas such as multimedia, social media and online marketing, ecommerce, cloud computing, mobile and web app development.
- International migrant workers are a significant aspect of Indonesian social and economic activity. WA VET providers should pursue opportunities to strengthen the skills of migrant workers in response to overseas demands and standards.
- Fiscal and compliance requirements of WA VET providers should be modified to facilitate exploration of VET opportunities in East Java.
- Contextual factors such as tax incentives and IA-CEPA regulations present opportunities for market entry that have not been available in the past.

INTRODUCTION

The primary purpose of this investigation was to provide evidence-based insights and recommendations for Western Australian VET providers seeking opportunities for market access in East Java. The data and information collected includes the following:

1. A summary of VET in Western Australia, developed from document analyses and interviews with directors of VET institutions involved with international programs and students.

2. A comprehensive collection of the literature related to VET in Indonesia, and more specifically in East Java, including discussion papers, policy documents and academic studies. These documents are listed in the References at the end of this Report. They have also been organized in an EndNote library, and are available to download directly from the EndNote library link.

3. A series of focus group discussions with Industry leaders associated with East Java business associations (HIPMI, APINDO, IABC, and Kadin). The data from these discussions has been integrated into this report.

4. A survey of more than 60 major business and industry leaders that collectively employ more than 100,000 workers in East Java. The results of this survey are included in this report.

5. Comprehensive details for more than 600 VET providers in East Java. Details including institution type, tuition costs, courses, course levels etc. The information is summarized in Appendix 4, and has also been organized into a filterable pivot table.

6. A comprehensive list of contacts in East Java – local government, industry and institutional stakeholders related to the VET sector. These have been summarized in Appendix 2, where a link is provided to the full contacts list.

WESTERN AUSTRALIA CONTEXT

Western Australia and East Java Relationship

In August 1990, Western Australia and East Java signed a Memorandum of Understanding to establish a Sister State Relationship, which has led to exchanges in food, agriculture, sport, education, disability services, smart cities strategies, social welfare, road safety, government administration and parliamentary delegation visits. The MOU also provided the basis for activities and programs in the areas of:

1. Trade and Investment, including particular focus on resources (including oil, gas and hard rock mining), energy (including renewable energy), infrastructure development, agriculture, and associated supply chain opportunities;
2. Tourism;
3. Scientific Research and Environmental Management with emphasis upon establishing increased co-operation between tertiary education and research institutions;
4. The Mining and Energy sectors;
5. The Maritime, Fisheries and Agricultural Industries, with particular emphasis on the dairy and horticulture sectors;
6. Human Resource Development, Education and Sport, including the consideration of further student and teacher exchange programs;
7. Youth Affairs and Social Welfare, with a particular focus on the provision of disability and health services; and
8. Government Administration.

Under the Sister State agreement, a specific education relationship exists between Western Australia and East Java through the Western Australia East Java University Consortium (WAEJUC) of 10 universities in East Java and five universities in Western Australia. WAEJUC was launched in 2017, and leverages off the combined strength and resources of the universities to identify opportunities in mobility, research and training, and have a focused WA effort in East Java. It is designed to extend the links between Western Australia and East Java and to enhance the profile of Western Australia in the region.

Through ongoing meetings between the universities in WAEJUC, opportunities have been identified in four key areas:

1. International Student Mobility
2. Research
3. VET
4. International Student Support Links

Significant initiatives of WAEJUC to date include:

2017
WA universities mobility tour across East Java in 2017

2018
WAEJUC received a 3-year New Colombo Plan Grant to support outbound mobility to East Java, May 2018

2018-19
WAEJUC Networking Event was held for all East Java students in Perth in 2018-19

WAEJUC was nominated as a finalist in the WA Export Awards in both 2018 and 2019

2019
WAEJUC VET Project commenced in 2019

WAEJUC Research Training Program was held in Surabaya and led by Academics from 4 of the WA universities, March 2019

Outbound Mobility Tour for 12 WA students to travel to East Java and visit the ten state universities in 2019

WAEJUC Inbound Mobility Tour for 22 East Java students to visit the five Western Australian universities in 2019

WAEJUC Scholarship Program commenced in 2019

Indonesia – Australia Comprehensive Economic Partnership Agreement (IA-CEPA)

A comprehensive economic partnership agreement between Australia and Indonesia was signed on March 4, 2019, and has yet to come into force. There are a number of elements of the agreement which impact on VET educational opportunities.

Australia and Indonesia have agreed to a skills development package of outcomes that guarantees Australian vocational education and training providers can establish majority-owned training institutions in Indonesia. This will provide certainty for Australian providers that they can establish a work training business anywhere in Indonesia and that the requirements for Australian trainers are accepted in Indonesia. Australian ownership can be up to 67% for supplying certain technical and vocational training.

Australian training providers in this sector will benefit from commitments that guarantee they can offer all VET level Australian Qualifications Framework qualifications and Indonesian Qualifications Framework levels 1-5 in areas including technical engineering, business administration, languages, tourism, management, information technology, art and agriculture.

As part of an overall skills package, Australia and Indonesia have agreed to a reciprocal Skills Exchange, allowing professionals from both countries to gain 6 months experience in the other's market.

Australia has also committed to allow up to 200 Indonesians per year to engage in 6-month work training opportunities in Australia – this will help build the capacity of Indonesia's workforce in key sectors, including those of interest to Australian investors.

Indonesia will also receive an increase in the number of Australian work and holiday visas from 1000 currently to 4100 in year one, growing to 5000 over six years). This will provide useful work experience for young Indonesians as well as assist regional Australia to meet seasonal labour requirements.

IA-CEPA includes a framework for trade and investment-related cooperation through a jointly-funded work program. The joint work program will support technical assistance and capacity building activities across a range of trade-related areas to strengthen commercial links and help stimulate two-way investment.

General Context

The high standards of the Australian education sector have made Australia a popular education destination for international students. The VET sector, in particular, attracts interational students because, aside from its practical nature, it is recognised and highly regarded internationally (Joyce, 2019). The Australian VET sector has a broad range of courses, education levels and methods of study.

Australia's well-established and dynamic vocational education and training (VET) system is its fastest growing education export, up to 17% in 2019. The contribution of international students to Australia's economy makes international education the largest service export (Deloitte Access Economics, 2015). In 2018-19 the total income from all international education activities was 37.6 billion, with an upward trend projecting the number of onshore international students to grow almost three times in the VET sector alone (Department of Education and Training, 2018). The demand for Australian-standard education has increased the number of education providers and broadened the range of services.

It is estimated that in 2017 a total of over 4,000 VET training providers existed in Australia, just under 400 of which were CRICOS registered. Of the total number, 3,156 were private providers, accommodating 58.7% of students, 17.6% of students were studying in TAFE colleges, and a smaller percentage of students studying with community organizations. A similar pattern of enrolment also existed in Western Australia in 2017, with an estimated 207,000 students (international and domestic) studying with private providers, and 56,000 students in the TAFE colleges.

As at November 2019 there were 280,971 international student enrolments in VET programs in Australia. This represented about 17.0% growth in international enrolments over the prior 12 months. Australia is a popular destination for Indonesian students, with nearly 21,000 Indonesian enrolments in Australia in 2018 across all education sectors. In 2019, there were 5055 students from Indonesia studying VET courses in Australia. Of these students, around 85% were in NSW, as a result of decisions that were made many years ago in this state to focus on building relationships with Indonesia.

In Western Australia in 2019, the number of both private and public VET students (international and domestic) decreased compared with 2018, by 24% for public providers and 5.2% for private providers, representing overall an 8.65% decrease from 18,180 students to 16,616 students. Of these students, 7,116 were international students, 122 of them from Indonesia (TAFE Queensland International, 2019).

In Western Australia, providers of VET include Technical and Further Education (TAFE) colleges, which are government owned VET providers, private providers, community organization, industry skill centers and enterprise training providers (Department of Training and Workforce Development, 2019). All institutions which deliver nationally recognized training are Registered Training Organizations (RTO).

As the purposes of this report are to examine the availability and capabilities of WA VET providers to capitalize on market opportunities, initiate collaborations with institutions and develop partners in East Java, only TAFE Colleges and private Registered Training Organizations (RTOs) are discussed.

Accreditation and regulatory responsibilities

This section provides a brief overview of the regulatory regime for VET providers. The WA VET system is governed by the *Vocational Education and Training Act, 1996*. This act established a vocational education and training system for the State, constituted the State Training Board of Western Australia and the Training Accreditation Council, and provided for the establishment of TAFE colleges and other vocational education and training institutions.

Apprenticeships and traineeships are administered and regulated in Western Australia by Department of Training and Workforce Development's Apprenticeship Office under Part 7 of the *Vocational Education and Training Act, 1996*.

The Training Accreditation Council (TAC) is responsible for the registration of training providers delivering nationally recognised training to domestic students in Western Australia only, or in both Western Australia and Victoria. TAC does not register or regulate providers in WA delivering nationally recognised training to:

- students in states other than WA and Victoria, including online delivery
- international students on a student visa.

Providers in these categories fall under the jurisdiction of the national regulator, the Australian Skills Quality Authority (ASQA).

These regulators register and audit RTOs against the Standards for RTOs, and the Tertiary Education Quality and Standards Agency (TEQSA) audits RTOs who also deliver higher education qualifications.

WA TAFE colleges are established as statutory authorities which report to the Minister for Education and Training and are regulated by the Training Accreditation Authority (TAC) and supported by the Department of Training and Workforce Development (DTWD). Some private training providers are also contracted by DTWD to deliver nationally recognised training. In addition, Western Australian TAFE colleges are required to comply with:

- *Standards for Registered Training organizations (RTOs) 2015* for delivery of vocational training across jurisdictions onshore and offshore, and
- Department of Treasury *Costing and Pricing Government Services: Guidelines for use by agencies in Western Australian Public Sector*.

Legislative requirements for onshore international students

The Commonwealth Register of Institutions and Courses for Overseas Studies (CRICOS) oversees the register of onshore education providers across Australia. All Australian RTOs that offer courses to international students have to register with CRICOS through ASQA, and comply with the ESOS Act 2000, and National Code. RTOs that are registered with CRICOS are responsible for maintaining current information regarding international student enrolment through the Provider Registration and International Student Management System (PRISMS). This system is administered by the federal Department of Education and the Department of Immigration and Border Protection.

Courses that are offered for international students and the institutions that offer these courses are listed in the CRICOS website.

The Education Services for Overseas Students Act (ESOS) provides protection for students and quality assurance of education and training institutions offering courses to international students who are studying in Australia on a student visa.

Student Recruitment

TAFE International WA (TIWA) is responsible for recruitment and management of international students for WA TAFE colleges and government schools. Among their responsibilities is promoting the WA TAFE sector to prospective overseas education providers and agencies through partnerships and presentations. Generally, staff from TIWA visit Indonesian schools 3-4 times a year. There is a good relationship with recruitment agencies in Indonesia, but there is currently no formal agreement with any educational institutions in Indonesia. The majority of Indonesian students in WA TAFE colleges study at the metropolitan TAFE colleges, only a small number attend regional TAFEs.

Many Indonesian students who study at WA TAFE colleges aim to use their study as a pathway to university, although this is not usually the case in Hospitality, Tourism or Health. The trend in Hospitality and Tourism is for students to study at a TAFE institute to gain the skills and qualifications to work in hospitality and tourism industries, especially in places with strong tourism activity such as Bali. For East Java students, however, the trend is more for study in industries such as Maritime and Engineering in which the students use the TAFE qualification to seek their admission to higher qualifications from a university.

Private RTOs are responsible for their own student recruitment, which may be through international recruitment agents, their own recruitment offices, or a combination of both. As an example, one private college has a recruitment office in the Philippines.

Scope of Education Provision

Training Packages are sets of occupational skills standards against which training and assessment of competency are delivered. Training Packages are developed through a process of national consultation with industry. Nine Skills Service Organizations (SSOs) review the content of training packages regularly and update them when required, i.e. when industry advice recommends an update or change. The SSOs are informed by Industry Reference Committees (IRCs) comprised of industry members across a very broad range of sectors. The IRCs are overseen by the Australian Industry Skills Committee (AISC), which is a national body established by the Council of Australian Governments (COAG). A new COAG Skills Council was announced in August 2019 to oversee the development of training packages (https://www.employment.gov.au/council-australian-governments-skills-council-COAG).

The Australian Qualifications Framework (AQF) assures consistency of qualification outcomes. It describes the qualification level, learning outcomes required for each qualification level and the training levels covered in secondary school, VET and higher education. The AQF also provides the structure for classifying qualifications. Qualification titles identify the qualification type, level and field of study. As the AQF qualification level increases, so too does the complexity of skill and knowledge required to complete the qualification.

Qualifications in the VET sector range from Certificate I to Certificate IV, Diploma, Advanced Diploma, Graduate Certificate and Graduate Diploma. Qualifications delivered by the VET sector may articulate into higher education awards such as bachelor degrees.

Some of the Certificate II qualifications are offered by RTOs as pre-apprenticeships which can provide entry pathways into a wide range of industries. These courses provide industry specific training, combined with hands-on experience in a real workplace, to gain skills and knowledge to prepare students for the workforce

or for entry into apprenticeships, traineeships and other AQF level qualifications.

When units of competency are combined into a related set (selected from within a training package), they are called skill sets. Skill sets equip students to perform particular job tasks or functions. By contrast, whole AQF qualifications produce learning outcomes that equip students with the competencies needed for an occupation. Reasons for choosing to undertake (or to establish) training for employees using skill sets might include compliance with specific industry standards or licenses, to provide a stepping stone towards a whole qualification. As with Training Packages, skill sets are delivered by registered training organizations (RTOs). An AQF qualification or Certificate of Attainment for a unit or skills set can only be issued by an RTO.

VET providers may offer their courses full-time or part-time, providing the flexibility for students to organise study around other commitments. However, this is different for onshore international students, who generally, because of visa requirements, maintain a full-time enrolment to ensure completion of the award in the minimum duration of the course. Full-time enrolment for onshore international VET students is 20 hours per week.

Apprenticeships and traineeships are an employment-based training model which provides on-the-job and off-the-job training under a training contract, and some apprenticeships and traineeships may be available to students in secondary education which contribute to their Western Australian Certificate of Education. The apprenticeship programs cover a wide range of industries and typically take up to four years to complete, leading to a nationally recognised qualification. Similar to apprenticeships, traineeships also provide vocational and occupational training, but are usually in non-trade related areas and normally take up to 3 years to complete.

Courses may be available externally through online and distance education and many institutions have the IT technological infrastructure to deliver the courses in a variety of pedagogical models including traditional face-to-face, blended learning and more recent pedagogical models such as flipped-classes. There are constraints in such flexibility, however, because competency-based teaching and learning is frequently not suited to online or blended delivery, and for international onshore students, CRICOS and ESOS limit online course content to 25%.

Apart from the pedagogy, the structure of the training is variable, and seems set to continue to change. The recently released review of the AQF (Australian Government, 2019) recommended the recognition of shorter form credentials such as MOOCs and micro credentials. All the recommendations have been approved by government.

Financial Matters

Unlike school and higher education sectors, a significant proportion of VET activity is undertaken by private providers on a fee-for-service basis without any government funding. The cost of this activity is usually borne by the student or the employer sponsoring the students.

Funding arrangements for VET across the states in Australia are not complex, although there is duplication of effort by the Commonwealth Government in a range of areas that are the constitutional responsibility of States and Territories. This can at times create confusion for stakeholders. VET can be funded by individual students, employers, the States and Territories within their respective jurisdictions, and the Commonwealth through programs such as the National Workforce Development Specific Purpose Payment, the Australian Apprenticeship Incentive Program, the Skills for Education Program, the Skilling Australians Fund and VET Student Loans (VSL), or a combination of these programs.

Government support
The majority of publicly subsidised VET delivery is funded by State and Territory Governments. The Western Australian Department of Training and Workforce Development subsidises a range of VET courses delivered by Western Australian TAFE colleges and contracted private training providers. The State Government prioritises its investment in training to focus on courses that are in priority industry areas including apprenticeships, eligible traineeships and priority qualifications. Subsidised training is not available to individuals who reside outside of Western Australia.

The Commonwealth government support for VET includes student loans, living allowance, apprentice incentives, and payroll tax exemptions. The 2019-2020 budget announced dedicated funding of $525.3 million to support the VET sector through Delivering Skills for Today and Tomorrow, in response to a review of the VET sector. It sets out a vision for VET as a modern and flexible alternative to classroom-based learning. The proposals aim to develop the skills of Australians to adapt and succeed in Australia's changing workplace, whilst providing businesses a pipeline of skilled workers.

The budget is to create additional apprenticeship incentive payments for areas of identified skills needs to support up to 80,000 new apprentices over five years. Part of this budget is also projected to be used to establish 10 Training Hubs across Australia, which will support industry pathways in areas of local skills shortages.

The Western Australian State Government also provides support to VET through incentives, payroll tax exemptions, and allowances.

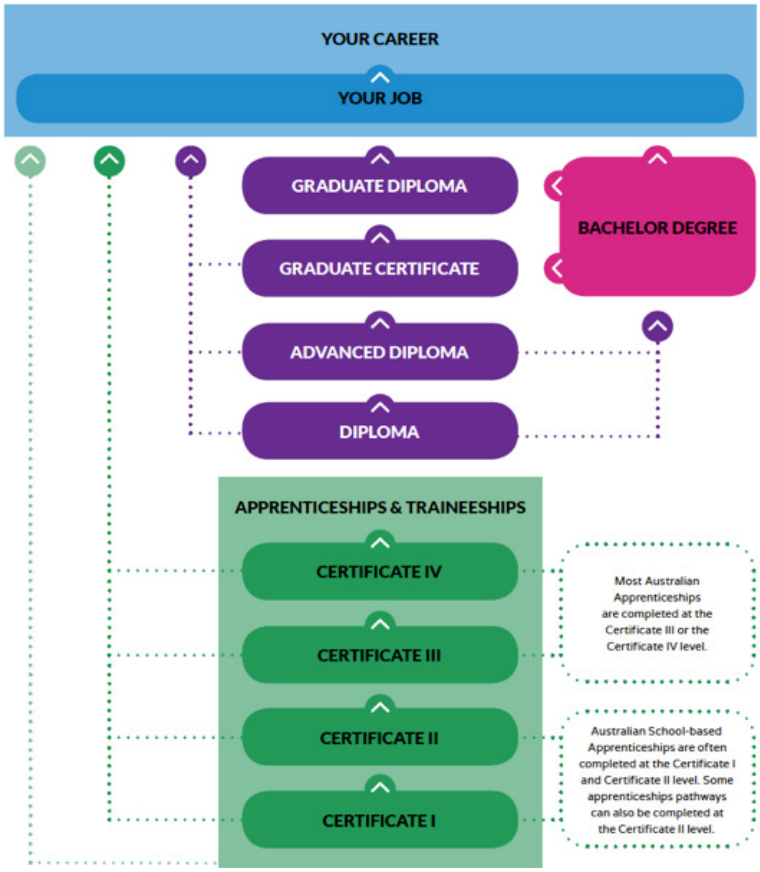
Industry Support
A number of industry bodies provide support for vocational training within their industry, for example the Construction Training Fund. The industry supports training by providing subsidies of up to 80% for traineeships and apprenticeships through private RTOs to help reduce training costs in those areas required by the construction industry.

International Student Fees
Tuition fees for international students to study in TAFE institutes vary depending on the course they wish to pursue. Most of the 2019 fees start from around $6,000 to $8,000 per semester. The full list of TAFE international fees can be viewed at the Schedule of fees on the TIWA website. Private RTOs can vary their fees from this Schedule. For example, a Certificate II in Business costs $6,200 at TAFE and $4,000 to $5,200 at a private RTO, per semester.

Aside from the tuition fee, international students studying in Western Australia need to be aware of the cost of living, which can vary depending on family and lifestyle circumstances. A breakdown of living costs depending on factors such as type of accommodation, transport and food can be estimated using the Study in Australia website (https://www.studyinaustralia.gov.au/English/Live-in-Australia/living-costs).

Scholarships for International Students
While there is an array of scholarships available for international students to study in Australian universities, not as many are available to study in the VET institutions. A long-established Australian government-funded VET scholarship, called the Endeavour Leadership Program (ELP) was an internationally competitive, merit-based scholarship program. In the April 2019 budget, it was announced that the ELP which began in 2003 was to end in 2019 with funding to be redirected to the Destination Australia program. This programme provides scholarships to Australian and international students to study in regional Australia. Over 1000 scholarships of $15,000 will be offered per year to support the study and living expenses associated with studying a Certificate IV to Doctorate level qualification at a regional campus of an eligible tertiary education provider. Despite Perth being recently reclassified as a region, this is just for migration purposes, so Perth institutions will not be able to take advantage of this program, although regional WA will.

FIGURE 1. VET qualification pathways



Source: MySkills

Pathways (entry and exit requirements)

Figure 1 illustrates the various entry and exit pathways for different VET courses. While there are entry requirements for each course, in cases where prospective students have not achieved the prerequisites, bridging support may be provided. Note that the qualifications represented in Figure 1 do not have to be taken sequentially.

Students may enrol in a full qualification, accredited course or a partial qualification. Partial qualifications include unit(s) of competency and skill sets, the completion of these units can be credited for future study as recognition for prior learning for other VET qualifications or Advanced Standing for university programs.

International Programs

A large number of VET courses are available for international students to study in WA ranging from Certificate II through to Advanced Diploma level. Qualification levels below Certificate II or higher than Advanced Diplomas may also be available to international students in certain RTOs.

While TIWA is the unit responsible for the recruitment and admission of international students studying onshore, offshore activities are initiated, negotiated and managed by the TAFE colleges or private providers.

Pathways to Australian VET qualifications are also available to international students through partnerships with international education providers. For example, South Metropolitan TAFE has been delivering programs through the partnership with an institute in Mauritius, and private providers have links with a range of institutions in a number of countries. All international programs are conducted in English and comply with WA TAFE regulations and accreditation. Most of these programs are for Certificate IV or Diploma level.

The entry requirements for international programs are equivalent to the requirements for local students, in addition to an IELTS minimum score of 5.5 for most programs. For example, onshore and offshore international students wishing to enrol in Certificate III programs must have an education level equivalent to Year 10 in the Australian Curriculum and an IELTS score of 5.5 in all bands. In cases where the prospective students have not achieved the minimum entry requirement, which is usually the minimum IELTS score, there are programs that can be taken to improve their English skills before they begin a Certificate program. Exit pathways, however, have to strictly follow WA TAFE competency standards set out in nationally endorsed Training Packages and in accordance with regulations.

In addition to long term partnerships, WA VET providers also engage in short-term international projects. The scope of these projects ranges from consultancy to the development of training facilities, developing qualifications and curriculum for VET courses and in some instances, training for particular projects through customised training programs.

Indonesia's proximity to Perth and the frequent flights servicing the two countries provide a convenient and cost-effective advantage in forging new VET partnerships between Western Australia and East Java, especially in terms of time and cost. VET providers view such partnerships as providing positive branding, adding to their portfolio of activities and adhering to WA state priorities.

Many VET providers are focused on sustaining their existing international partnering agreements while also seeking to develop new opportunities to work collaboratively. The rationale is that the positive outcomes from such activities impact on the internationalization of staff (opportunities to experience other cultures), curriculum and students (study or internships abroad). However international competition is intense and despite several collaboration efforts initiated with Indonesian VET institutions, a successful outcome has not yet eventuated, partly because of the presence of dominant European VET providers and their competitive pricing structures.

VET Providers

In order to provide a snapshot of VET institutions in WA, a number of case studies are briefly presented below: two TAFE colleges and three private RTOs.

TAFE Colleges (Public Registered Training Organizations)
The TAFE colleges are public, or government owned, RTOs. In 2016 TAFE colleges in WA were integrated and consolidated into fewer institutions as follows:

- South Metro TAFE (integrated Challenger Institute of Technology and Polytechnic West)
- North Metro TAFE (integrated West Coast Institute and Central Institute of Technology)
- Central Regional TAFE (integrated Durack Institute of Technology, Goldfields Institute of Technology Kalgoorlie campus and the CY O'Connor Institute Northam, Merredin and Moora campuses)
- South Regional TAFE (Bunbury) (integrated South West Institute, Great Southern Institute and Esperance Campus)
- North Regional TAFE (integrated Pilbara Institute and Kimberley Training Institute)

For the purpose of this report, the two largest WA TAFE colleges are briefly described: South Metropolitan TAFE and North Metropolitan TAFE.

South Metropolitan TAFE
South Metropolitan TAFE is one of the two metropolitan government owned and operated Technical and Further Education (TAFE) colleges. It has 1380 staff across twelve campuses, delivering more than 376 nationally accredited VET qualifications ranging from Certificate I to Advanced Diploma level. These campuses serve a wide range of industrial training needs of regional and urban communities spanning the south regional and metropolitan suburbs. The main areas of concentration include engineering, oil and gas, defence industry, fabrication, IT, business, events management, fashion, automotive, agriculture and maritime. Currently an estimated 27,000 students' study at the various campuses.

In addition to local training, South Metropolitan TAFE is also a training provider to international students both onshore and offshore. It offers training consultancy services to international governments, industry and educational institutions including collaborations in China and Singapore. In Mauritius and Abu Dhabi, South Metro TAFE delivers nationally recognised qualifications through partnerships with institutions. International consultations have included a pipeline training facility project in Malaysia, part of which involved the upgrade of local staff through customised training programs and micro credentials. International curriculum development work has included a project in Kazakhstan to develop curriculum in the context of the national qualification framework. Aligned with this was the provision of training to the unemployed, which eventually allowed them to gain entry into the formal tertiary education system. South Metropolitan TAFE is a member of the West Australian Technical and Vocational Education and Training Consortium.

According to 2018's enrolment figures, the South Metro TAFE hosted 1100 international students from 59 different nationalities studying various programs, a slight decrease compared to 2017, possibly the result of recent migration law changes.

Digital technologies are seen as the platform for the future delivery of curriculum in ways that are timely, individualized and appropriate.

North Metropolitan TAFE
North Metropolitan TAFE has 10 campuses, has been offering offshore courses for about 60 years, and is the oldest RTO in Western Australia, as the institution from which it developed was established more than 115 years ago. It offers more than 300 courses, from Certificate I to Associate Degrees, as well as short courses or skill sets, which are based on individual and organizational skill needs and can be later credited towards a qualification.

North Metropolitan TAFE has a significant portfolio of international activity which includes projects in Mauritius, China, Saudi Arabia and

Kuwait. International programs follow various delivery models depending on the needs and context of the partner country. These models could be fully offshore, fully onshore, mixed offshore-onshore or trainer training. For example, a current international partnership program is organized so that two-thirds of the program is conducted offshore in the students' home country, and one-third is conducted onshore in Perth. This model can also include work placement when required. Blended learning has been utilised in many programs with course content provided online and face-to-face training conducted onshore.

North Metropolitan TAFE has developed capacity for international relationships and projects in terms of curriculum, human resources, program, modules (also called skill sets), staff professional development (also called Vocational Education Leadership Training, VELT), as well as partnership models, risk and cost assessments. Previous and current partnerships are mostly with institutions and government organizations, and include other Western Australian providers. North Metropolitan TAFE is a member of the West Australian Technical and Vocational Education and Training Consortium. There has never been a partnership with Indonesia, however, there was a recent visit from the Denpasar government to investigate the possibilities.

Private Registered Training Organizations
The VET sector displays great diversity within and between different types of training organizations. Some private providers have large numbers of students and deliver training in a broad range of areas, others have small numbers of students and operate in very niche markets. For the purpose of this report, a summary of two of the largest private RTO in WA is reported: Stanley College and Phoenix Academy, and one more niche oriented RTOs: Rural Training Australia.

Stanley College
Stanley College is a private RTO that has more than 1900 international and local students in three campuses. It employs 170 qualified trainers and staff who speak 14 languages. The programs offered include Early Childhood Education, Hospitality, Health and Business & Management, in addition to their English language programs. Stanley College is accredited through ASQA for their VET programs and TEQSA for their Bachelor course.

All training and assessment at Stanley College is currently face-to-face, supported by resources and materials provided online through a Moodle environment. In cases where applicants do not have the minimum academic or English entry requirements, there are supplementary training programs that can be taken to achieve entry level. In terms of exit points, no micro credentials have yet been developed, but the students can obtain a certificate detailing their achievements and the point at which they leave the course.

Stanley College currently only offers onshore training, but has experienced senior management and curriculum development and training provision experience that could be applied to an overseas context. Perceived barriers to the development of international provision include an awareness of local needs, local regulations, visa regulations, language, standards of provision, the identification of partners and financial considerations.

Phoenix Academy
Phoenix Academy is a private RTO with 30 years of experience which provides a wide array of more than 600 links and pathways to VET and Higher Education programs in WA and internationally. The Academy has an Institute for Teaching Excellence, which designs and delivers Teacher Education programs to meet the needs of the vocational training industry and authorising bodies.

Phoenix Academy has delivered international programs in Vietnam, Saudi Arabia and Africa. In Indonesia, a Train the Trainer program for Hospitality and Tourism, and a Global Skills for the Travel Industry course have been implemented. In the Higher Education sector, Phoenix Academy has linked with a number of universities to deliver tertiary teacher training courses.

Phoenix Academy focusses on collaboration in both the design and delivery of customized VET programs. All programs are WA-accredited, and are supported by a Learning Management System, facilitating face to face, online and blended delivery. They provide pathways to universities and programs to improve students' English and academic skills. They offer a TESOL Certificate, and a tertiary teacher training program in conjunction with universities. Phoenix Academy is a member of the West Australian Technical and Vocational Education and Training Consortium.

Rural Training Australia
Rural Training Australia (RTA) was established in 2001 to provide training specifically for the remote inland districts of Western Australia, the Northern Territory and Queensland in food production and agriculture, mainly for export industries. They have delivered programs to more than 1500 trainees in these regions, in addition to their traineeship program which has run for more than 18 years predominantly in the beef cattle pastoral sector.

RTA collaborates with the government owned Muresk Institute in the delivery of specialised agricultural training, and with JBS Australia, Thoroughbred Racing Industry and the North Australian Pastoral Company (NAPCO) in the provision of staff training. It is contracted to the WA Department of Training and Workforce Development Future Skills to cater for Workplace qualifications in Primary Production. The qualifications range from Certificate II to Certificate IV level in Agriculture, Horticulture and Racing. Because the training is mostly on-site and face to face, RTA has not developed online or blended availabilities.

Consortia
The West Australian Technical and Vocational Education and Training Consortium (WATVET Consortium) is an example of institutions working together, comprising Phoenix Academy, North Metropolitan TAFE, South Metropolitan TAFE and Miles Morgan (TVET research and policy development consultants). The consortium was brought together to combine shared capabilities and expertise to deliver international training projects and programs, and has recently worked with Saudi Arabia's Colleges of Excellence (Vocational Training Colleges), addressing areas such as Leadership and Governance, Curriculum, Student Services and Support, and Institutional Sustainability.

EAST JAVA CONTEXT

General context

East Java is one of the provinces of Indonesia and has a land border with Central Java to the west, the Java Sea to the north, the Indian Ocean to the south and the Bali Strait to the east, which separates Java from Bali. Its capital is Surabaya, the second largest city in Indonesia and a major industrial centre. The total area of East Java is 47,800 km^2, which is 2.49% of the total area of Indonesia. The largest island in East Java is Madura Island, which is separated by the Strait of Madura and located about 150 km north of Java.

The population of East Java was just over 42 million in 2017, making it the second-most-populous province, with a density of 820 people/km^2. The province is inhabited by different ethnic groups, including the Javanese (80%), Madurese (18%) and Chinese (2%). Of the total population, 96% are Muslims, and the other religions are Christianity (2.4%) and Hinduism (0.5%). The Indonesian language is the official language of the province but Javanese and Madurese are the most frequently used languages.

The current governor of East Java is Khofifah Indar Parawansa who was elected in 2018, and is the first female governor. Her current Deputy Governor is Emil Dardak. Administratively, East Java is divided into 29 Districts and 9 Cities.

There are several Consulate General Representatives in Surabaya including USA, Australia, Japan, and China. Surabaya also hosts some Consulate Representatives including Netherlands, Belarus, Belgium, England, Denmark, Philippines, Hungary, India, Germany, Canada, South Korea, France, Poland, Czech, Russia, New Zealand, Slovakia, Sri Lanka, Sweden, and Thailand.

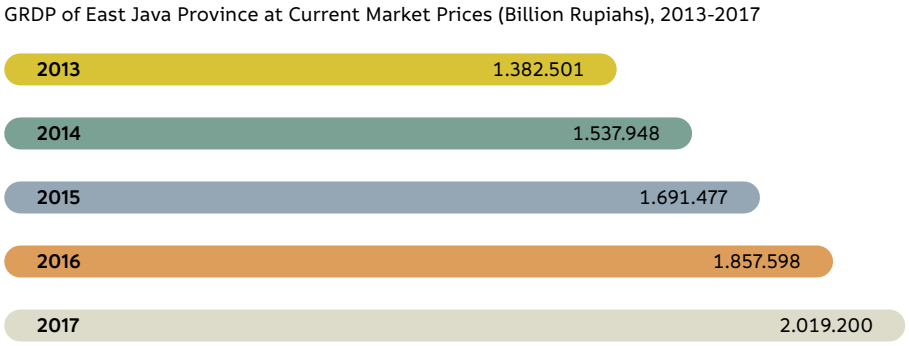
East Java is known as the economic center of Central and Eastern Indonesia and contributes over 15% to the Gross Domestic Product of Indonesia. It hosts the largest shipbuilding facility in Indonesia, the largest cement factory in Indonesia, the largest railway industry in Southeast Asia, many paper mill companies and four large cigarette factories.

The province is also the home of many big mining companies who extract non-metallic minerals (zeolite, pirofilit, feldspar and bentonite), metallic minerals (copper, mangan, gold) and rocks (marble, clay, sand, limestone and iron sand). East Java is the largest concentration for marble processing in Indonesia.

The government has established 12 industrial estate companies throughout the province. Small industrial centres are spread throughout the districts / cities, and some of them have developed export markets. Starting in 2017, an 1,800-hectare plot of land at the entrance of Madura Strait, is being developed to host the largest industrial park in East Java - the Java Integrated Industrial and Ports Estate. The port is expected to be ready by 2030 and will have a total berth length of 6.4km and some sections will be deep enough to accommodate large cargo vessels with capacities up to 100,000 deadweight tons. This is expected to reduce loads at nearby Tanjung Perak, Indonesia's second-busiest port and the main logistics gateway to the nation's eastern provinces. Freeport Indonesia, the local unit of U.S. miner Freeport-McMoRan, is reportedly looking at the site as a potential location for its second smelter in the country.

Malang has become a significant tourist destination for local Indonesians due to the heavy investment of Jawa Timur Park Group, which developed 11 theme parks and four hotels in Surabaya and Malang. Since 2011, it has been working with the Department of Education and Culture of Kota Batu, LIPI (Indonesian Institute of Sciences) and also the Ministry of Environment and Forestry in developing museums, zoos, and parks, all aimed at children and family leisure activities.

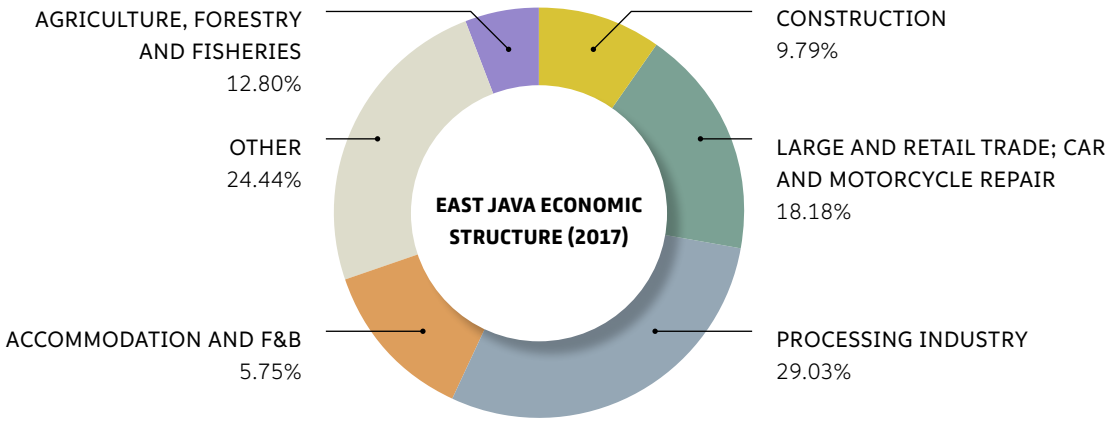
FIGURE 2: Gross Regional Domestic Product



Source: East Java Badan Pusat Statistik (BPS).

East Java's GRDP has been constantly rising, for example from Rp 1.382 trillion in 2013 to Rp 2.019 trillion in 2017 (46% increase), which was second nationally, compared to Jakarta as the first place with Rp 2.410 trillion and West Java third with Rp 1.786 trillion. Over the years, Java Island has been the biggest contributor to Indonesia's economy, followed by Sumatra. This may be due to the fact that Java is the most populous island in Indonesia. The most populous province in Java is West Java, with approximately 47.37 million residents (2018), followed by East Java with 42.03 million (2017).

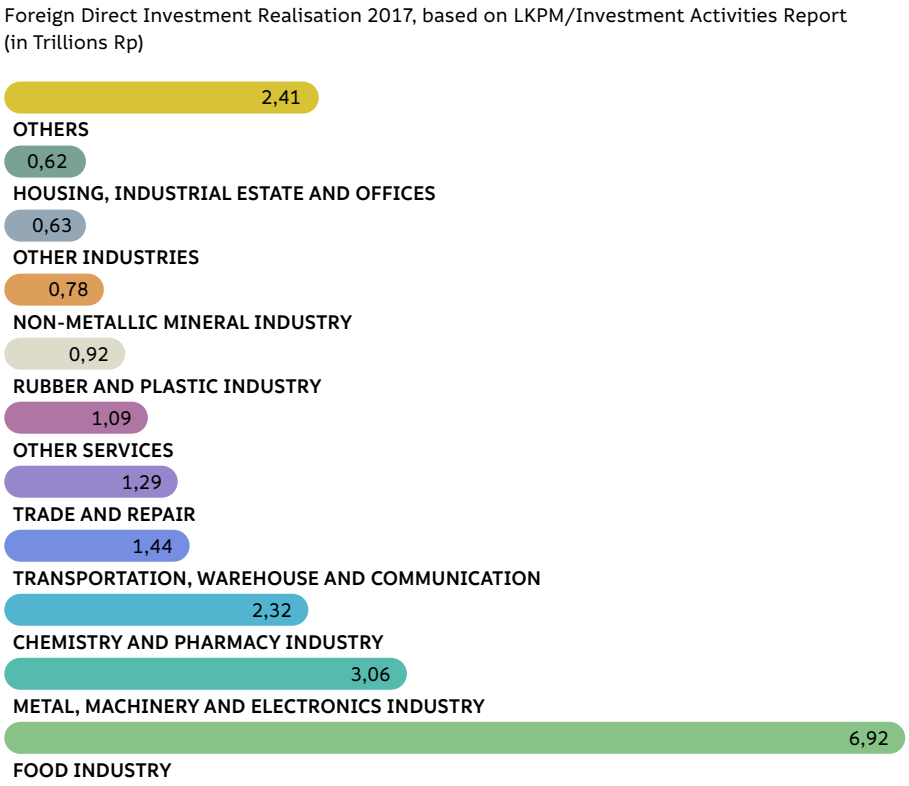
FIGURE 3: Economic Structure (main trading activity)



Source: East Java BPS.

The largest contributing sector to East Java's economy is the Processing Industry (29.03%), followed by Large & Retail Trade and Car and Motorcycle Repair (18.18%) and Agriculture, Forestry and Fisheries (12.80%). The 'others' category is further divided into 11 small contributors: Information & Communication (4.6%), Mining-digging (4%), Transportation (3.43%), Financial Services (2.73%), Education Services (2.62%), Government Administration (2.27%), Real Estate (1.59%), Other Services (1.36%), Electricity and Gas (0.33%), and lastly, the smallest contributor to East Java's economy, Water Supply (0.09%).

FIGURE 4: Foreign Direct Investment



Source: East Java Investment Agency and One-Stop Integrated Services (Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu Provinsi Jawa Timur).

According to the East Java Investment Agency, the area receiving the highest Foreign Direct Investment in 2017 was West Java (16%), followed by DKI Jakarta (14%), Banten (9%), Central Java (7%), Papua (6%), then East Java and North Sumatera (5% each), East Kalimantan and South Sumatera (4% each), and others (25%). Total FDI realisation in 2017 in East Java reached US$1.567 million or about Rp 22 trillion, while the total domestic investment was US$ 9.489 million. The highest FDI is in the Food Industry, with Rp 6.92 trillion investment or 28% of total investment, followed by Metal, Machinery, and Electronics Industry (Rp 3.06 trillion) and the Chemistry & Pharmacy Industry (Rp 2.32 trillion).

TABLE 1: Foreign Investment in East Java

No	Country	Project	Investment (in trillion Rupiah)	Jobs Created
1	Singapore	579	7,54	13,446
2	Japan	381	4,37	15,346
3	South Korea	231	2,69	4,877
4	Netherlands	157	2,01	9,369
5	China	335	1,04	5,407
6	Malaysia	82	0,79	1,893
7	USA	68	0,66	881
8	Taiwan	119	0,42	4,843
9	British Virgin Islands	140	0,4	3,871
10	England	40	0,3	857
11	Other countries	395	1	17,706
	Total	**2,527**	**21,22**	**78,496**

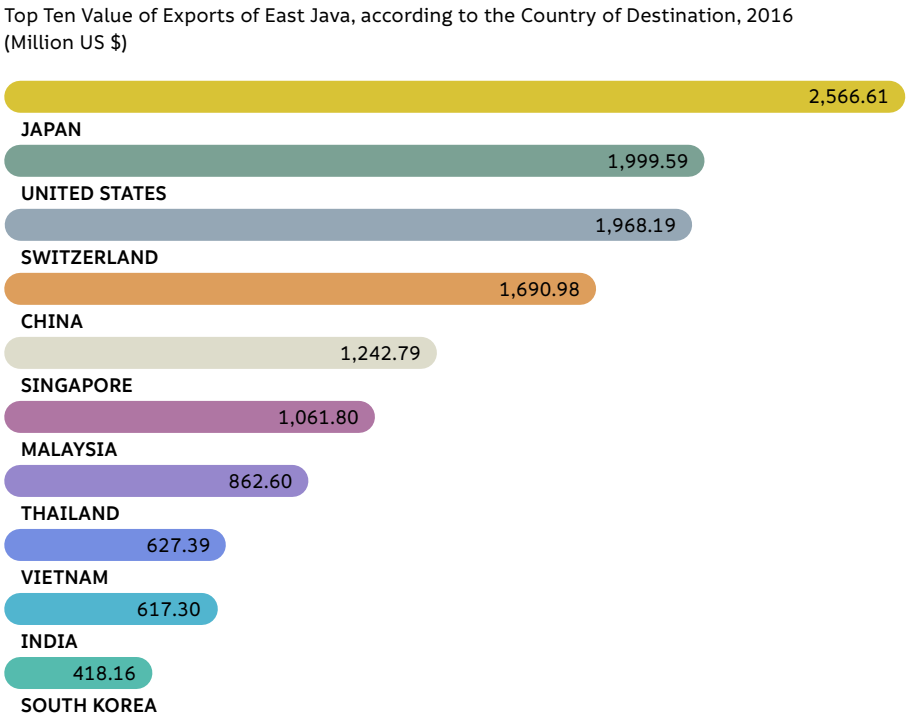
Source: East Java Investment Agency and One-Stop Integrated Services (Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu Provinsi Jawa Timur).

Singapore is the country with the highest investment in East Java in 2017, with investments valuing Rp 7.54 trillion[1]. The second highest is Japan and South Korea is the third, with investment of Rp 4.37 trillion and Rp 2.69 trillion respectively.

Singapore is also the country with the most projects in East Java in 2017 (579 projects), followed by Japan (381 projects), and China (335 projects). Even though Singapore invested the most money and had the highest number of projects, their workforce was ranked second place (13,446 workers). Japanese projects employed the highest number of workers (15,346 workers), and the third highest number of workers was in projects from Netherlands (9,369 workers).

1 It is a common corporate practice for some Indonesian businesses to establish holding companies in Singapore. Singapore has attractive double tax avoidance treaties, foreign earned income tax.

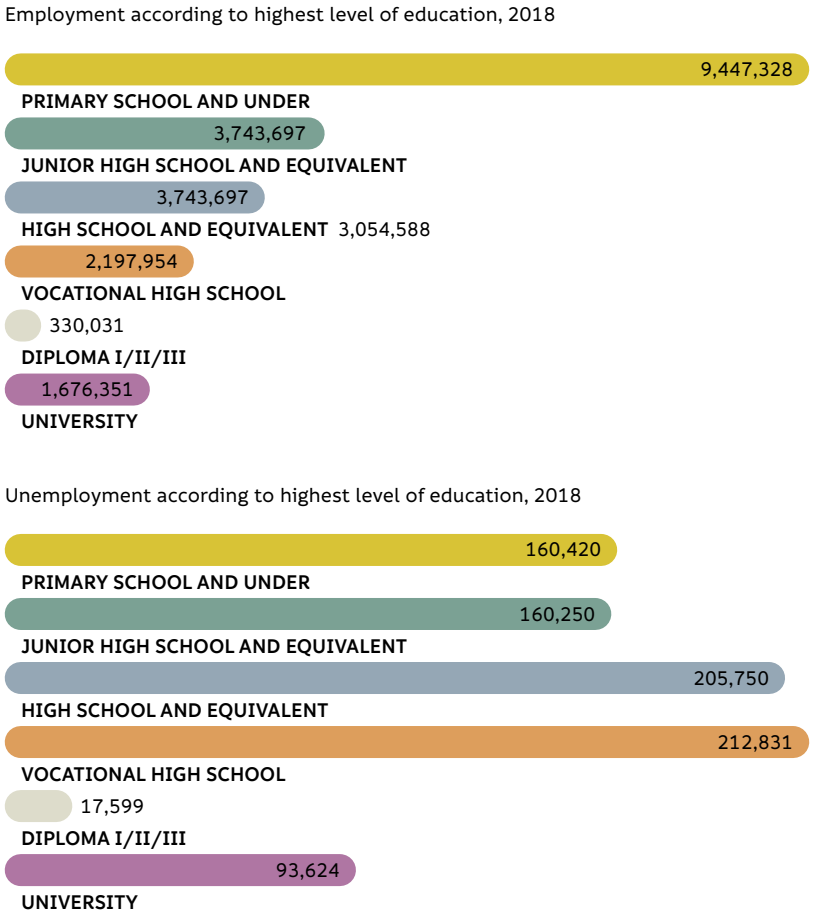
FIGURE 5: Exports from East Java



Source: East Java BPS.

Japan remained the highest recipient of exports from East Java in 2015 and 2016, followed by the United States and then China.

FIGURE 6: Employment and Unemployment



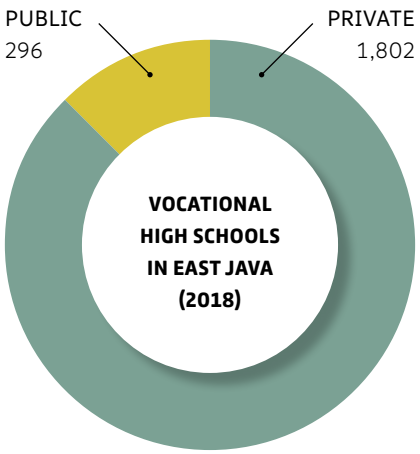
Source: East Java BPS.

The majority of employees in East Java had primary school as their highest level of education. Interestingly, the highest number of unemployed graduates came from Vocational High Schools, who were supposedly trained to have more advanced working skills than Academic High School, Junior High School, or Primary School graduates.

Schooling is organised in the following categories:

- Sekolah Dasar (SD) / Primary School: The basic formal education, from 1st to 6th grade.
- Sekolah Menengah Pertama (SMP) / Middle School: The basic formal education, after graduating primary school, from 7th to 9th grade
- Sekolah Menengah Atas (SMA): The academic secondary formal education, after graduating middle school, from 10th to 12th grade.
- Sekolah Menengah Kejuruan (SMK): The vocational secondary formal education (referred to Vocational high schools), after graduating middle school, from 10th to 12th grade.

FIGURE 7: Number of Vocational High Schools in East Java (2018)



Source: Directorate of Vocational High School Development.

In East Java, there are significantly more private Vocational High Schools (1,802; 86%) than public High Schools (296; 14%). Of the total of 2,098 Vocational High Schools in East Java, 311 have 'A' (very good) accreditation, 393 'B' (good) accreditation, 76 'C' (fair) accreditation, 18 not yet accredited, and 1,300 (62% of total) have no accreditation.

Both private and public education providers of higher education in Indonesia offer a range of 4 levels of vocational programs: DI/DII/DIII/DIV, in which the length of study is represented by the level (DIV is Bachelor level).

TABLE 2: Business category and type

Institution	Definition	Total in East Java	Total Who Offer Vocational Program	
University	Offers academic and/or vocational education in various groups of different study areas	98	45	46%
Institute	Offers academic and/or vocational education in a more limited study area options	51	6	12%
Sekolah Tinggi (Training College)	Offers academic and/or vocational education in only one study area option	291	67	23%
Polytechnic	Offers vocational education in various groups of different study areas	28	28	100%
Academy	Offers vocational education in only one study area option	77	77	100%
Community Academy	Offers vocational education (diploma I and II) with study area options based on local excellence or needs	3	3	100%
Total		**548**	**226**	**41%**

Source: Higher Education Data Centre; Ministry of Research, Technology, and Higher Education.

The vocational courses offered by East Java Higher Education Institutions are very diverse: Language (English/Chinese/Japanese), Business, Health, Culinary & Hospitality, Information Technology, Transportation & Army, Engineering, Agriculture, Design, and others.

Industry Survey: Technical Vocational Education and Training (TVET) providers

This survey aimed to investigate industry experiences related to technical vocational education and training (TVET) in order to gain a better understanding of industry perceptions, needs and experiences in East Java. More than 60 industry executives, representing more than 100,000 workers in East Java were surveyed.

Whilst the majority of survey participants were secondary industries (52%), consistent with East Java as a manufacturing hub, there were also participants from tertiary service industries (33%) and primary industries related to agriculture and extraction (13%). The largest group of those surveyed were based in the capital city of Surabaya (42%), with 28% spread throughout East Java, and a further 25% throughout Indonesia, and a small percentage (5%) of global companies. More than 70% of those surveyed had more than 50 staff, with 25% having more than 1000 staff. Some of those interviewed were major corporations with significant staff numbers including PT Susanti Megah (around 500 staff), PT Steel Pipe Industry of Indonesia Tbk (around 2,000 staff), PT Abadi Corak Biskuit (around 3,000 staff), PT Indofood Sukses Makmur Tbk, PT Wonokoyo Jaya Corporindo (around 5,000 staff), PT Bank Central Asia Tbk (around 50,000 staff) and PT PAL (around 10,000 staff).

Overall, the respondents were largely unconvinced that the TVET sector in East Java was delivering the job ready graduates that industry needed, with only 16% rating the graduates they hire as highly competent. Likewise, only 14% of respondents believed that the graduates they hire had sufficiently developed soft-skills.

More than half of the survey respondents (58%) had no relationships with TVET providers at all, and of those who had, less than 10% contributed to curriculum development, teacher training, or financially or materially to a provider. The majority of engagements consisted of a commitment to place graduates in employment or internships. Despite this apparent lack of formal engagement with East Java TVET providers, and the highest cohort of unemployed coming from vocational high school students in East Java, around 40% of industries declared an undersupply of skilled workers in their industries.

In terms of the future outlook for industries in East Java, more than 85% of industries believe they will need to transform their businesses in order to remain globally competitive. There is also a strong sense of optimism in the business outlook, with more than 65% very optimistic about business growth. There also remains strong potential for business to expand and trade online with around half (49%) conducting business either frequently (41%), or entirely (7%) online.

Overall, the evidence from this survey supports the notion that opportunities exist for industry to meet current and future skills shortages through solid partnerships with competent foreign TVET providers who can enter the market with efficiencies and agility to respond to the needs of industry.

Method

The data from the survey was collected from a combination of online survey, interviews, and focus group discussions. The online survey was distributed in partnership with HIPMI (Indonesian Young Entrepreneurs Association), APINDO (The Employer's Association of Indonesia), and IABC (Indonesia Australia Business Council) East Java. The actual questionnaires were also developed in partnership with these associations on the basis that the insights gained from these surveys would be shared with the members and associations who participated.

Data was also gathered from a series of focus group discussions that were organised in partnership with HIPMI (Indonesian Young Entrepreneurs Association), and APINDO (The Employer's Association of Indonesia). Each focus group consisted of 6-8 participants. The participants were generally the principal authority of the companies (CEO, owner, managing director), however in a few instances where national industries were involved, the head of human resources was co-opted to participate (Indofoods, Honda, BCA).

Several interviews were also conducted outside of these focus groups. These participants included:

- Vice Chairman International Trade and Promotion of KADIN (Indonesian Chamber of Commerce and Industry – Surabaya Chapter)
- President of IABC (Indonesia Australia Business Council) East Java.
- Head of the East Java Education Council
- President of the Private Higher Education Providers Association of Indonesia

Overall, this survey represents a substantial insight into the business and industry community in East Java with more than 60 industries, representing more than 100,000 workers in East Java participating in the survey, focus group discussions, and interviews.

The online survey (Appendix 3) was divided into 3 sections, representing information about the business organization, the perceptions and experiences associated with TVET in East Java (graduates, providers, outcomes), and the business outlook for the future. The survey was created using the survey software "Typeform", and was distributed via email and WhatsApp link through the secretariat of the industry association partners.

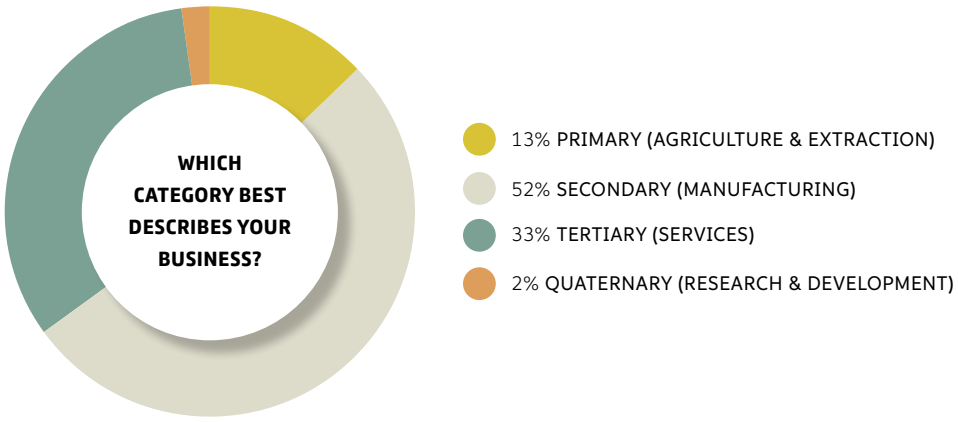
Results

The results that follow are a visual representation of the raw data with accompanying analysis. Participants generally responded on a 10-point Likert Scale. It has been our experience with market research in Indonesia that there are several cultural factors that should be taken into account with Likert Scale data collection. There is a commonly accepted notion that Indonesia has a softer approach to negative sentiments, particularly with respect to other people, and therefore has a tendency to articulate these negative tendencies in a more moderate tone in Likert Scale type questionnaires. One would therefore expect to see a stronger tendency towards the middle as a way of denoting less satisfaction, or a negative perception related to the question. Whilst some market researchers in other cultural contexts seek out a central tendency using mean, median or mode of the set of data, we hold the position that such applications to ordinal data is particularly problematic in Indonesia. In accordance with accepted practice, we will present the raw data using data transparent visualization techniques with our accompanying analysis.

TABLE 3: Business category and type surveyed

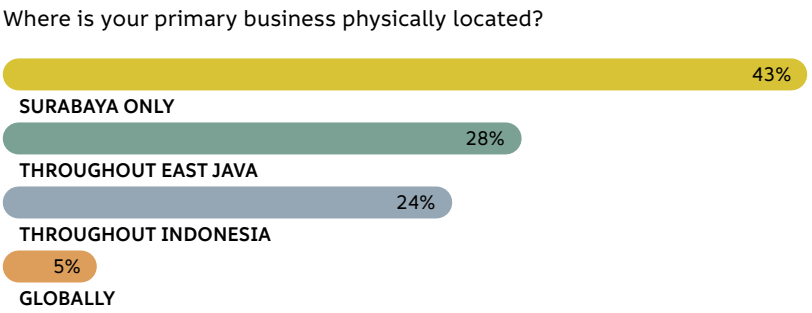
Primary business		Secondary business		Tertiary business		Quaternary business	
Type	Qty	Type	Qty	Type	Qty	Type	Qty
Agriculture	3	Chemical & consumer	5	Advertsing	1	Research & development	2
Forestry	2	Clothing and textiles	1	Construction	1		
Mining	2	Construction/building	3	Culinary	1		
Livestock	1	Cosmetic packaging	2	Education	1		
		Electrical & technology	1	Financial & legal service	3		
		Energy	2	Hospitality & tourism	2		
		Food processing	5	IT & e-commerce	1		
		Furniture & homewares	1	Logistics	4		
		Industrial	10	Media	2		
		Transportation	2	Online	1		
				Property	1		
				Real estate	1		
				Retail	2		
Total	**8**	**Total**	**32**	**Total**	**21**	**Total**	**2**

FIGURE 8: Which category best describes your business?



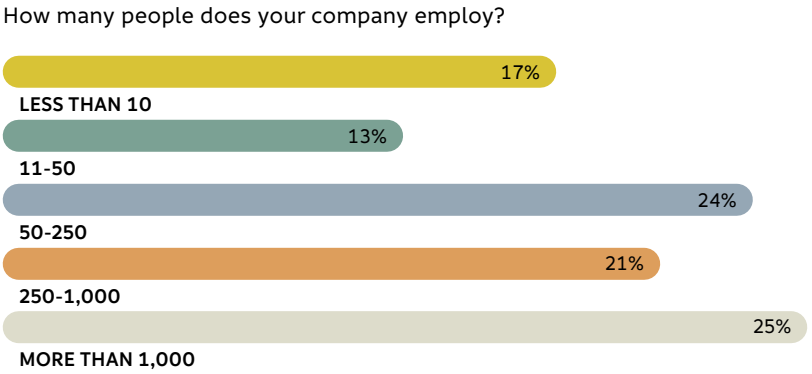
Whilst the majority of participants were secondary industries (52%), in line with East Java as a manufacturing hub, there were also participants from tertiary service industries (33%) and primary industries related to agriculture and extraction (13%).

FIGURE 9: Business Physical Location



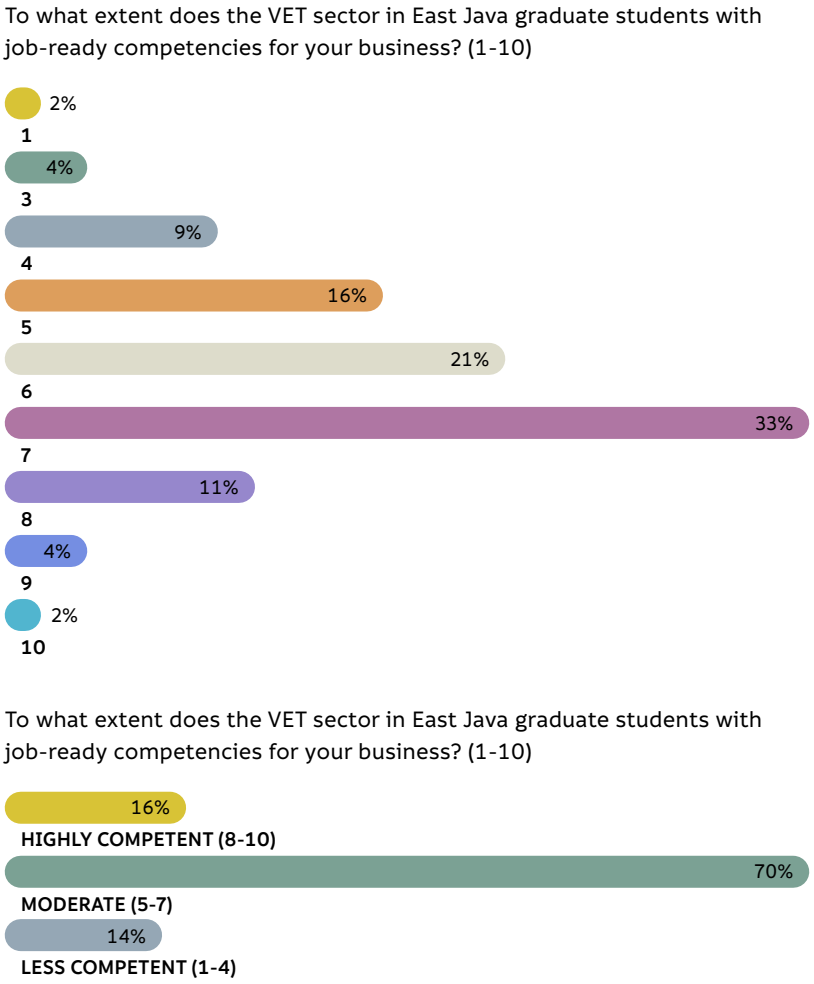
The majority of those surveyed were based in the capital Surabaya (42%), with 28% spread throughout East Java, a further 25% throughout Indonesia, and a small percentage (5%) were global companies.

FIGURE 10: Number of Employees



The survey represents more than 100,000 workers from companies with significant numbers of employees including: PT Susanti Megah (500), PT Steel Pipe Industry of Indonesia Tbk (2,000), PT Abadi Corak Biskuit (3,000), PT Indofood Sukses Makmur Tbk, PT Wonokoyo Jaya Corporindo (5,000), PT Bank Central Asia Tbk (50,000) and PT PAL (10,000). Overall 25% of the survey respondents have more than 1,000 employees.

FIGURE 11: Perceptions and experiences associated with TVET in East Java

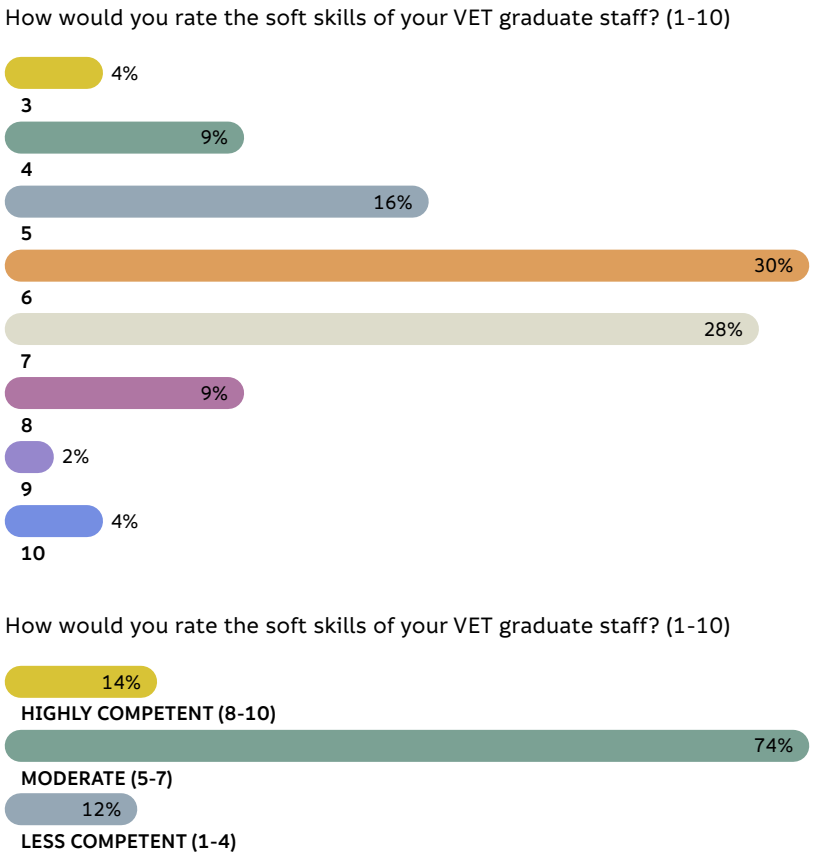


Overall, the respondents were largely unconvinced that the TVET sector in East Java was delivering the job ready competencies that they needed in graduates. Only 16% rated the graduates they employ as highly competent. Around a third provided a moderate rating of seven, which indicates there is some degree of satisfaction with some aspects of the graduate's competencies. During the focus group discussions, clarification was sought from participants with respect to this question. A common theme of these discussions was the sentiment that graduates were highly motivated to work, and to be employed. Employers had a genuine appreciation for new employees' enthusiasm, however they concurrently noted that the new employees generally require significant guidance, supervision, and ongoing training for the simplest of tasks.

> *"Vocational high schools [SMK] are distinguished by their attitude towards work. Mostly, students from vocational high schools come from low-income families, so they struggle more than academic high school students, who are more focused on further study".*

There was around a third of participants who rated the overall competencies of TVET graduates at 5 or less (31%), indicating a strong dissatisfaction with the capacity of the TVET sector (or including the general education system) to deliver the competencies it requires. There were several comments during the focus group discussions that suggested vocational high schools and other TVET providers produced graduates with some technical capabilities, however they were significantly lacking in general communication, literacy, numeracy and problem-solving skills, which presents an interesting set of opportunities for Western Australian providers.

FIGURE 12: VET Graduate Staff Soft Skills



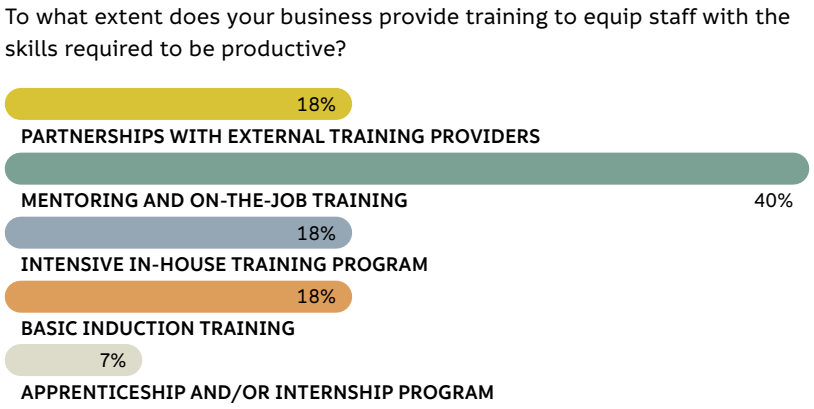
The term 'soft skills' is used to refer to a range of personal non-technical skills such as creativity, problem solving, communication and collaboration.

Similar to the job-ready competencies, the participants were relatively dissatisfied with the level of soft skill competencies of employees. Less than 15% considered their TVET recruits to have highly competent soft skills, and almost a third (29%) provided a rating of 5 (less competent) or less. As expected, the largest cohort of respondents rated this item at the moderate level.

In the focus group discussions, participants were more critical of the capacity of the general education system in Indonesia. There was a sense that earlier business models that relied on mass inexpensive labour to generate profits was no longer possible in the modern, connected and high industrialised present.

"The reasons why SMK (vocational high school) graduates have low employability is primarily because a lot of their skills are not needed anymore… and there is an imbalance in the quality of schools. Only good private or public schools are able to produce skilled graduates, while the graduates from low quality SMKs won't be able to find a job. The government needs to balance and improve the quality of SMKs".

FIGURE 13: Skills Training by the Companies

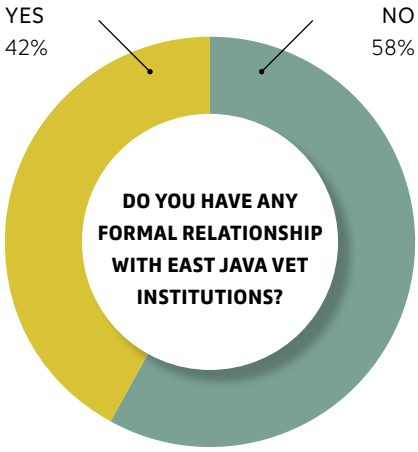


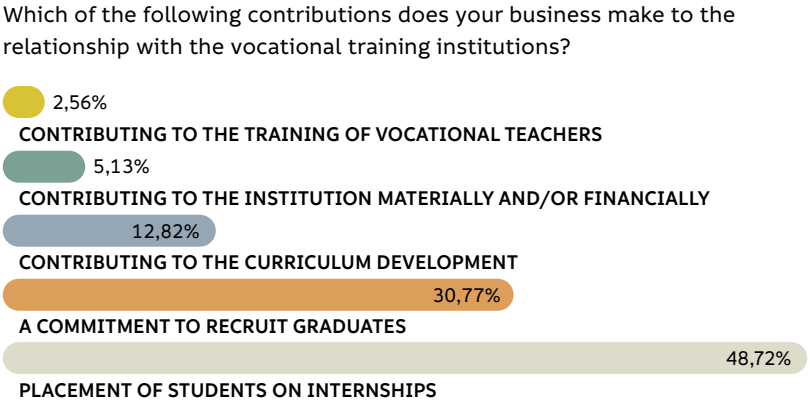
Less than 20% of industry respondents had any partnerships with an external training provider, with the same proportion providing their own intensive in-house training program for recruits. Forty percent provide mentoring and on-the-job training programs, and much smaller percentages provide formal apprenticeships, internships (7%) or basic induction training (18%). It is likely that in 2020 there will be dramatic changes in these percentages as the tax incentives for training and development are realized.

A recurring theme from the survey, focus groups and interviews was the overwhelming sense that, in order to manage risk, businesses needed to control and provide their own training. There was a belief that outsourcing specific skills training was a risky proposition that relinquished control beyond a level with which they felt comfortable. Decades of stifling bureaucracy, corruption, inefficiencies, quality control issues, and other factors have created a culture in which industry generally feel they must structure their business to rely on as few external stakeholders as possible. It became clear that this culture is an impediment to business seeking or working towards greater engagements with TVET providers to provide an ongoing stream of graduates with job-ready skills.

There were some interesting exceptions. One cargo logistics company which was interviewed, require their staff to undertake training and certification by ALFI (Association of Logistic and Forwarders, Indonesia). In this instance the company also hosted weekly training programs, and employees take a national certification exam.

FIGURE 14: Formal Relationships with East Java VET Institutions

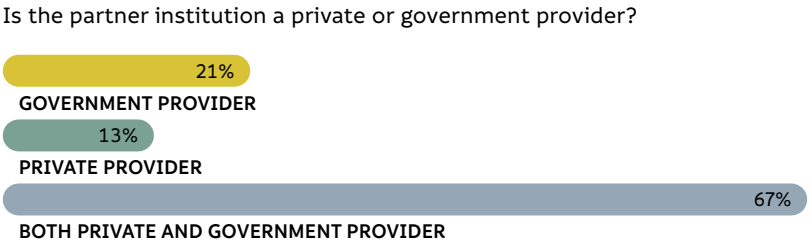




More than half of respondents (58%) had no relationship with TVET providers. Of those who had, less than 10% contributed to curriculum development, teacher training, or financially or materially to a provider. The majority of engagements consisted of a commitment to place graduates in employment or internships.

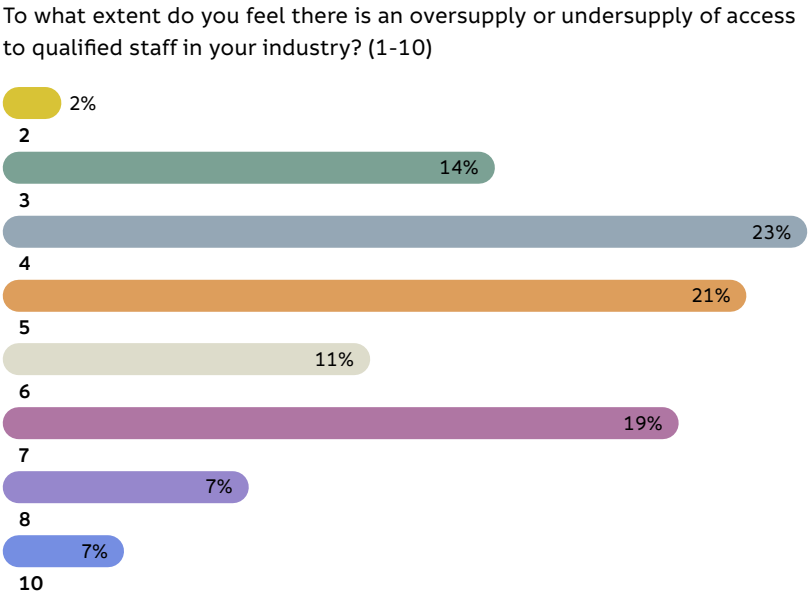
Some previous efforts had been undertaken to improve the relationship between industry and TVET providers. In 2018-19, the East Java Government established a Skill Development Centre – a collaboration between Ministry of Manpower, Ministry of Education, Ministry of Industry and Ministry of Tourism. The idea was to create a TVET committee as a way of promoting stronger relationships between industry and TVET providers. However there was a general consensus amongst participants that the competing demands and interests of disparate Ministries, coupled with poor coordination had resulted in this initiative being unsuccessful.

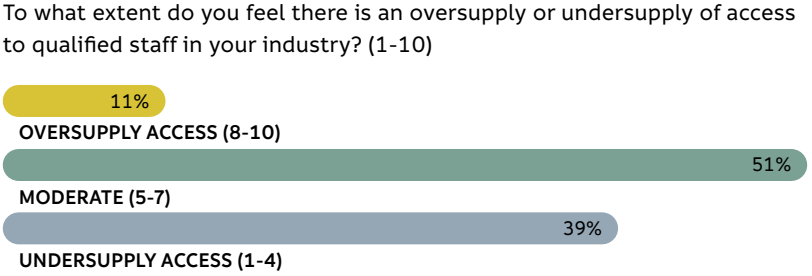
FIGURE 15: Type of VET Institution Partner



Of the 42% of respondents who claim they have a formal relationship with VET institutions, 67% have a relationship with both Private and Government Providers; 21% of them with Government Providers and only 13% with Private Providers.

FIGURE 16: Oversupply/Undersupply Access to Qualified Staff





Despite this apparent lack of formal industry engagement with East Java TVET providers, and the highest cohort of unemployment coming from vocational high school students in East Java, around 40% of employers surveyed an undersupply of skilled workers in their industries.

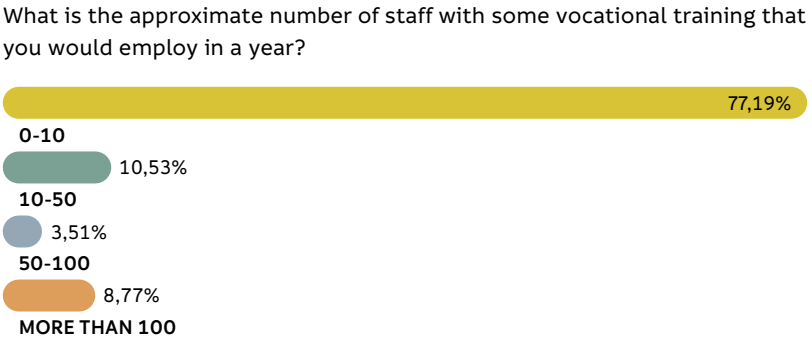
Unemployment has decreased throughout East Java from 8.5% (2005) to 3.9% (2018), and this is perhaps reflected in the moderate-to-under supply of skilled staff. Around 10% of respondents consider there to be an oversupply of staff with skills.

We asked the respondents to list the areas in which they felt there was an undersupply of skilled staff in East Java, and they most commonly cited the following areas:

TABLE 4: Undersupply of skilled staff

Area of Expertise	Skills Needed
Engineering	Advanced machine operator Chemical technicians Coating Cold storage Machine production Metal packaging Mining and geology engineering Motor wire roll (maintenance) Pipe production Plastic injection moulding Power generation Product manufacturing design Quality inspection Truck mechanic Welding (TIG and construction welding)
Business/Management/IT	Business relations English language Farm management Financial management Government relation Graphic design IT (digitalising services) Marketing/Digital Marketing R&D Staff management
Others	Competent truck drivers Work safety

FIGURE 17: Number of Staff with a VET Background Recruited in a Year



One of the concerning realities for Vocational High School graduates is that they have the highest unemployment rate, by educational qualifications, in East Java. There are significantly fewer unemployed graduates with an Elementary School qualification (160,000) or Junior High School qualification (160,000), compared with Vocational High School graduates (212,000). The best performing cohort in terms of employment, however, are those with diploma level qualifications (17,000), which are delivered mostly by universities, but also by polytechnics, institutes and academies.

Around 10% of industries surveyed employed more than 100 vocational graduates each year, with the majority (77%) employing less than 10 graduates each year. The focus group discussions and interviews indicated a particular preference for selecting staff from academic high schools and universities due to their higher level of general competencies compared to Vocational High School students. In what has been a buoyant job market for employers for some time, this ability to place more skilled staff in lower paying jobs has been possible. As Indonesia's economy has grown and the unemployment rate has declined, access to skilled labour is becoming more competitive. Younger, more qualified graduates are increasingly more selective about their job market choices, leaving employers to navigate the skills and competencies gap.

The Future

FIGURE 18: Business Transformation Anticipation

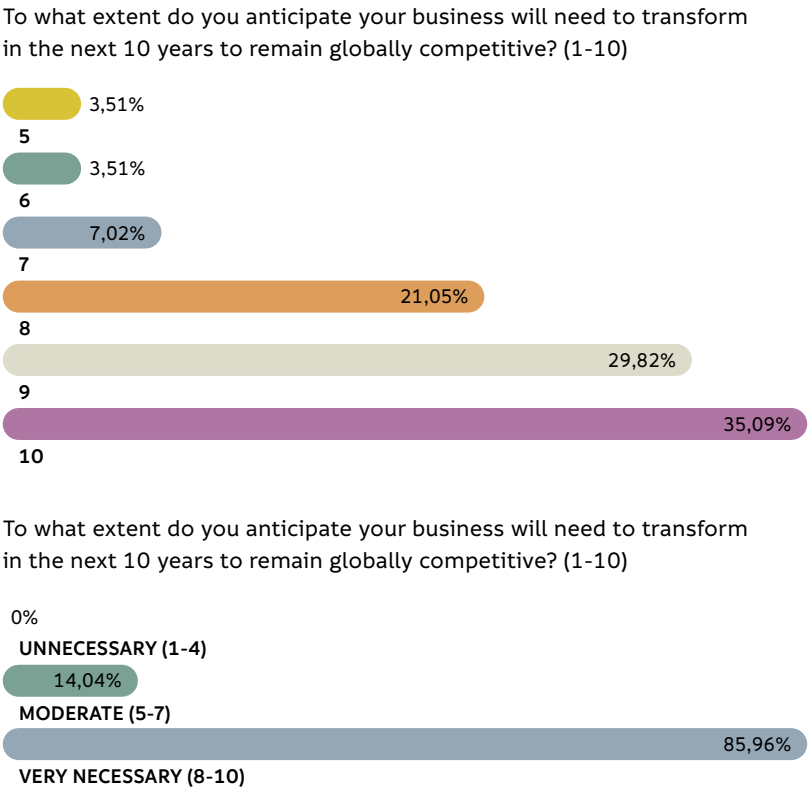


FIGURE 19: Business Confidence Level

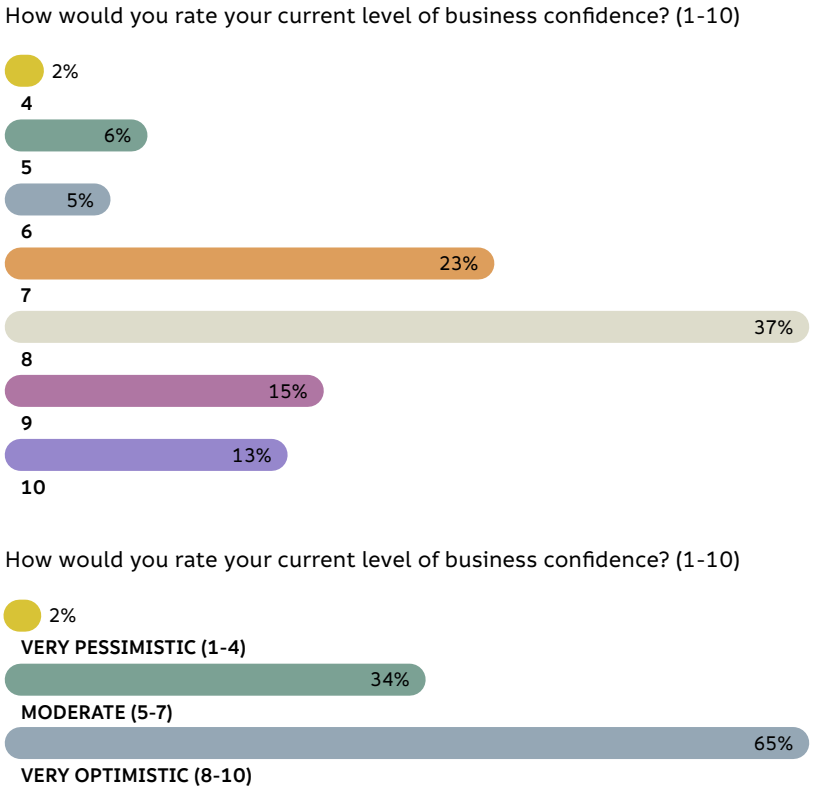
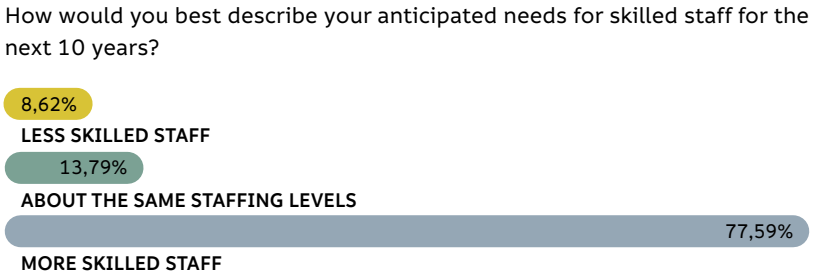


FIGURE 20: Skills Staff Needs Anticipation

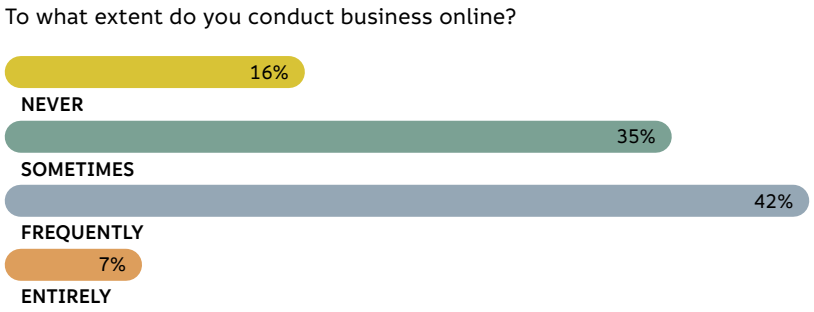


Throughout the series of interviews and focus group discussions, business leaders acknowledged that East Java is dominated by manufacturing traditions that have been premised on the availability of a competitive labour force, and sufficient domestic demand to remain profitable. They also acknowledged that this was more rapidly changing than the pace of their business transformations. A more gloabalised access to manufactured goods, technological innovations in manufacturing abroad, and greater competition from other Asian manufacturing hubs were the competitive threats most cited as concerns.

Business and industry are acutely aware of their need to transform in order to remain globally competitive. More than 85% of industry leaders surveyed suggested that this is going to be critically necessary (8-10) and only 14% moderately so (5-7). This correlates with a strong anticipated need for more skilled staff in the future. Almost 80% of businesses anticipate the need for more skilled staff in the next decade. Interestingly, less than 10% believe technological and automation advances will impact their industry in such a way that they will require less skilled staff in the next 10 years.

There is a strong sense of optimism in the business outlook of the participants, with more than 65% very optimistic about business growth. There also remains strong potential for business to expand and trade online with around half (49%) conducting business either frequently (42%), or entirely (7%) online.

FIGURE 21: Frequency of Conducting Business Online



Analysis

The single most prominent conclusion from our exploration of industry perceptions of the TVET sector in East Java has been a consensus that it is the preliminary general education system in Indonesia that is the greatest barrier to better vocational education and training outcomes in later years.[2] International benchmarking assessment performance of Indonesia's educational outcomes supports this assessment. The perception amongst industry stakeholders was that Vocational High Schools (SMK) are an option of last resort for students who fail to meet the entry requirements of academic high schools. These students have quite commonly not met the basic levels of literacy and numeracy required for achievement in vocational studies in high school. The high unemployment rates of Vocational High School (SMK) leavers also support this perception amongst employers. Employers repeatedly stated a preference for employing and internally training graduates from academic high schools or universities, because they arrive with better general competencies that provide a foundation to further build upon.

Another factor that was prominent from this study was the lack of coordination between industry and the TVET sector, and therefore the lack of formal and productive engagement by industry with TVET providers.[3] The East Java Government has attempted to coordinate various Ministries to work together with industry and TVET providers, but there is a consensus that these attempts have lacked the structure, funding, and coordination required to be successful. This, coupled with an inherent cynicism of government interventions in business, have resulted in the necessity for substantial investments by industry in skills training.

The overall aim of this survey was to develop a snapshot of industry perceptions of the TVET system in East Java in order to identify the ways in which WA VET providers might access and develop related market opportunities. It is apparent that the Vocational High School sector in Indonesia will present some significant risks for WA providers in terms of entry qualifications and prerequisites required to succeed at the most basic diploma level courses WA would offer. The perception of industry is that the vocational high school system generally lacks the administrative expertise, agility, and transparency to make partnerships at this level a viable opportunity.

This survey did however expose significant opportunities for WA VET providers to respond to the optimism of industry in East Java, their overwhelming acknowledgment of the need to transform their business to remain globally competitive and their consequent need to access more skilled staff in the future, and need of competent training partners with the transparency, agility and skills that will meet their future needs.

There is no doubt that the size and scope of East Java's economy, coupled with the problems that Indonesia has faced in terms of the development of its skills training sector, present significant market access opportunities for foreign providers. There has long been a consensus related to the needs and demand for TVET, however the barriers to both local and foreign providers have related to funding models for skills training, particularly for the majority population of low-income families who have limited capacity to self-fund post-secondary education. WA providers need to consider how they enter the market. Key considerations should be around developing products that are quick to deliver, scalable, cost effective and of high quality.

2 Early childhood education in Indonesia is not compulsory, and the more than 50,000 kindergartens are almost entirely private enterprises. For Vocational High School (SMK) students, preliminary education refers to elementary school (6 years) and junior high school (3 years).

3 Although 42% of industry declared a formal relationship with TVET providers, these were largely reports as superficial relationships that mostly consisted of a commitment to support interns or place graduates.

CONCLUSIONS

Throughout the course of this investigation, general and specific opportunities for WA TVET providers in East Java have been identified. The following concluding discussion summarizes the rationale for the involvement of WA VET providers in East Java, outlines some specific recommendations related to strategies WA VET providers may adopt in the short term as ways of entering this market, and a range of general more longer term recommendations related to strategic involvement. The section ends with a summary.

The recommendations have been curated with several factors in mind:

- The capacity within WA to contribute the recommended expertise.
- The extent to which the recommendations would constitute a financially defensible opportunity for WA VET providers.
- The nature, scope, and extent of the East Java economy including acknowledgement of the anticipated shifts in the modernisation of the East Java economy.
- The opportunities presented by IA-CEPA.
- The opportunities arising from significant tax incentives being offered for industry to cooperatively invest in TVET and skills development with other providers.

Rationale for WA Involvement

Based on the available literature, interviews with WA VET providers, Indonesia's current and proposed TVET policies, IA-CEPA opportunities and extensive discussions with industry leaders in the context of the VET landscape in East Java, the following rationale exists for WA providers to positively contemplate a greater market engagement with East Java.

1. The Indonesian government has declared TVET a national priority. There is constant evidence of intent emanating from the office of the President that is being developed into positive policy directions.
2. The Indonesia Australia Comprehensive Economic Partnership Agreement (IA-CEPA), when ratified, makes possible a major share (67%) of Australian ownership of TVET providers operating in Indonesia.
3. As part of IA-CEPA, Australia has agreed to help Indonesia develop an Indonesia TVET committee responsible for TVET standards and to incentivize industry to participate in VET systems.
4. IA-CEPA will provide opportunities for TVET providers that are related to an economic cooperation package that the design team within DFAT (Economy and Policy) are currently formulating.
5. The Indonesian Government has recently announced plans for a super tax rebate system to incentivize industry to invest in skills training. The announcement indicates that a 200% rebate will be applied to industry investments in skills training, and 300% tax rebate for Research and Development.

6. The data from a TVET industry survey (60+ industry leaders representing around 100,000 workers) in East Java show that business confidence is high, there is an undersupply of skilled workers and a strong recognition of the need to transform industry to remain globally competitive. Overall, the survey echoes the national concern related to the provision of TVET.

7. For the past 30 years, Western Australia has developed a valued brand, reputation and presence in East Java as a consequence of the ongoing activities of the sister state relationship with East Java. Broader government initiatives, such as the 'Market Action Plan – Indonesia' (Australian Government, 2019), further promote opportunities in Indonesia.

8. Structures currently exist for the coordinated organization of responses to the East Java demands. For example, the WATVET Consortium, comprising Phoenix Academy, North Metropolitan TAFE, South Metropolitan TAFE and Miles Morgan, was developed to combine shared capabilities and expertise to deliver international training projects and programs.

9. The fundamental economic data within East Java demonstrate strong growth, and remain positive. GRDP growth of 46% (2013-2017) to USD$150 billion (PPP $476 billion), and a population of 42 million.

These fundamentals provide the foundation on which WA VET providers should feel confident about investing in the development of market entry strategies and feasibility work related to their specific domains of VET provision. The scale and scope of the East Java economy presents a vast array of opportunities for TVET providers. These are both in niche areas of highly skilled provision, and also in the broader opportunities of general skill development.

Recommendations

A concerted and strategic investment by the Western Australian VET sector in East Java is a current opportunity. 'Concerted' implies a recognition that these opportunities will require a time investment in developing networks within the business community, conceptualising solutions that address the needs of industry, and generally acting proactively to develop the VET opportunities that are apparent. 'Strategic' implies that a process and framework exist in which WA VET providers are likely to have a greater opportunity for success.

Recommendations for immediate action
Some immediate potential strategy action opportunities include the following.

1. Communicating intent
   Signaling the WA VET providers aspirations to develop opportunities in East Java within existing networks, including the Australian Consulate in Surabaya, business associations and other networks (see the appendices for specific contacts). Essentially getting the word out that WA is proactively seeking TVET collaborations specifically in East Java. Investing in an in-market business development position would further signal to the market that WA is committed to the future of TVET in East Java.

2. Building in the existing base
   Capitalising on, coopting, and building upon the existing education networks that other WA education sectors have developed in East Java. This may include the Western Australia - East Java University Consortium that has member universities delivering vocational studies throughout East Java. It may also include the Australia–Indonesia BRIDGE School Partnerships Program, alumni networks, East Java industries receiving New Colombo Plan interns, and other existing networks that could provide entre into East Java.

3. Building on current links

East Java has a vibrant industrial community that already have strong ties to Western Australia. Throughout the course of this investigation we noted numerous examples of this, which include: the deputy chairperson of the Indonesian Chamber of Commerce – who has children studying in Perth, and property in Perth; the largest producer of salt in East Java sources product from Dampier in WA; the largest privately-owned construction company in East Java has a home and investments in Perth; and an East Java family purchased the exclusive rights to a Perth culinary pastry franchise for East Java. Infiltrating and coopting these networks with strong links to WA would undoubtedly be valuable.

The New Colombo Plan (NCP) scholarships seek to provide an opportunity for Australian undergraduate students to gain international experience through both short term and semester long placements. Indonesia is the number one destination for NCP scholars. Several organizations that support WA universities in East Java, like ACICIS and International Internships, have developed strong industry links throughout Indonesia, and building upon the industry relationships that have already been developed for WA universities presents another opportunity.

4. Targeted Presentations

Business Associations in East Java (HIMPI, Apindo, Kadin, IABC) meet regularly and are particularly amenable to hosting guest speakers who could authoritatively present on TVET issues and opportunities. This exposure could be an opportunity pathway to developing future industry training partnerships.

5. Allied Industry Groups

There are currently exploratory discussions underway related to cooperative training solutions for a consortium of allied industries. In this example, a major light steel producer is investigating the potential for a co-funded training center that brings together the light steel industry, with plasterboard industry, and sealers and paint industry to form a cooperative training center for subcontractors. In this instance, the training solution incorporates branding, marketing, product sales incentives, and of course improving the skills of subcontractors. Other opportunities similar to this exist, however East Java currently lacks the proactive leadership within the TVET sector to conceptualize and propose solutions.

6. Educational Technology

The fourth industrial revolution (IR4.0) represents the various ways technology has developed to become enmeshed with social and economic activity. IR4.0 is predicted to be more disruptive than past industrial revolutions and will result in both the demise of current jobs and the creation of new ones (Deloitte, 2019). This has resulted in the rapid expansion of Education Technology (edu-tech) sector in Indonesia. The Ministry of Communication and Information Technology (Kominfo) through its Minister, Rudiantara, recently said that “this year it is more likely for another unicorn[4] startup to emerge in the educational technology industry (edu-tech)”. Developing relationships, exploring potential collaborations, undertaking feasibility and market analysis of potential educational technology opportunities is another strategy that WA VET providers could engage in. Australian intellectual capital in VET is highly regarded in Indonesia.

4 A unicorn is a technology startup with a market valuation greater than USD$1 billion. Indonesia already has 5 technology unicorns.

The Indonesian Government recently called for Expressions of Interest from Australian providers for training in areas of emerging technologies related to IR4.0, to be conducted in both Indonesia and Australia. Successfully responding to such calls would be a useful low risk and short term strategy in developing market awareness and establishing effective links with government and industry. Embedded within these EoIs is a 'Train the Trainer' approach, which is one of the strategies of the Indonesian Government to address the need and the scale of skill development.

7. Alumni networks

Whilst the WA higher education sector has been proactive in engaging with alumni in East Java, the WA VET sector appears less engaged in this space. Australian VET alumni in Indonesia have some remarkable success stories in contexts that range from hospitality and tourism to entrepreneurship. Engaging with alumni and promoting these success stories throughout East Java, and amongst the business community, is a relatively achievable strategy that will compliment and reinforce a suite of other strategies.

8. Training-work programs

This investigation revealed a range of Indonesia and Australia based industry sectors that are seeking direct 'training-to-work' programs to satisfy the needs for both inbound and outbound foreign workers. These included programs related to short term skills shortages in Australia (aged care, disability services, horticulture etc.) and foreign worker programs in Indonesia (cruise industry, nursing, factory workers etc.). A more concerted investigation of these opportunities both in Australia and East Java would present opportunities that have the added advantage of industry sponsorship and work placement.

Recommendations for longer term action

The following general recommendations for involvement synthesise the findings from the research conducted in Western Australia and East Java into areas of focus for WA VET providers.

Recommendation 1.
Focus on industry training partnerships.

Industry are independently investing heavily in their internal training capabilities. For example, Australian company Coca-Cola Amatil (based in East Java), spent around USD$5 million on training in 2018. The industry research suggests that more than 80% of industries in East Java conduct in-house training, and around 20% of these are substantial and intensive in-house training programs. More than half of industries in East Java (58%) have no relationships with TVET providers, and for those that have, it is simply at the level of commitment to place interns and graduates. A very small percentage contribute to trainer development, curriculum, or provide financial support in exchange for specific training outcomes (<5%).

The focus group discussions revealed some apparent reasons for this lack of partnership and collaboration with TVET providers. Industry generally have a cautious relationship with government institutions because of the multiple bureaucratic requirements to be complied with. The lack of transparency, lack of agility, and susceptibility to corruption has created somewhat of a crisis of confidence. Industry feels the need to structure their business risk model in such a way that they rely on as few external partners as possible. There are some similar concerns with private TVET providers. The for-profit education providers have also not been able to establish themselves as core training providers for big industry, who have developed a preference for in-house capacity, close proximity, and tight controls on content.

There is however an awareness within industry that these investments in their own training are disproportionately costly and not ideal. Some examples of partnering with competent foreign providers are emerging. Thiess, the Australian mining services and construction

giant have a TVET training facility with more than 1500 graduates in partnership with Central Queensland University (diploma level courses), and several companies have recently established partnerships with the Victorian State Government TAFE colleges. China have substantial investments in training facilities in East Java as part of their Belt and Road Initiative. The Luban Project aims to train local staff to work on Chinese infrastructure projects throughout Indonesia. The Swiss government have likewise invested heavily in skills training in Indonesia (CHF75 million 2018-2021), through SECO and SITECO programs. The focus of these programs has been to partner with select polytechnics in more advanced engineering skills training.

Opportunities exist. Industry appears open to a compelling business case for partnered provision of training. These opportunities do require investments into developing these relationships, understanding the specific contextual and training needs of industry, demonstrating a capacity for agility, cost benefits, and most importantly solid partnerships. Whilst most foreign providers gravitate towards local government and private institutions with the hope of partnership opportunities, increasingly more promising opportunities exist directly with industry. In the absence of national Indonesian funding models for TVET, industry or individuals are the most likely funding source. The recent announcement of the super tax rebate for industry to invest in TVET will pave the way for more substantial opportunities for WA providers.

This will require WA to be coordinated, prepared, and invested in the business community in East Java. It is important to note that much work has already been done in East Java to establish the prominence of WA. There is a vibrant Indonesia Australia Business Council (IABC), an Australian Consulate currently led by the former WA Trade Commissioner, and many examples of trade and investment partnerships between Western Australia and East Java. East Java has also typically been the largest source of international students to Western Australia, and the sister state relationship between Western Australia and East Java is a valuable platform to build upon.

In this research, industry stakeholders identified areas in which they have the most difficulty accessing skilled workers. The following is a list of the top 10:

1. Underwater ship maintenance, particularly robotic technologies
2. Farm Management
3. Welding (particularly specialized welding)
4. CNC programmers, operators
5. Workplace Safety
6. Manufacturing Equipment Maintenance
7. Product Manufacturing Design
8. Heavy Duty Mechanics
9. Digital, IT, ecommerce skills
10. English Language

Recommendation 2.
Unlocking knowledge capital through online TVET

One of the biggest challenges that Indonesia faces with respect to skills training, particularly when it comes to government and industries with substantial numbers of employees, is the scale of the training required. In an interview with the head of HR for one Indonesia's top financial institutions with more than 50,000 employees throughout Indonesia, the need was clear for platforms that can support this scale of training. The Ministry of Communications and Information (KOMINFO) recently announced 25,000 scholarships for digital talent training. They also noted that the Ministry has overall responsibility for the training of more than 600,000 government workers in basic, intermediate and advanced digital and IT skills. Many nation-wide conglomerates have substantial numbers of employees, for whom the business case for delivering training modules online is becoming compelling. An Australian provider recently tendered for a short-term training program related to cyber-security but was outbid by a USA provider who pitched a digital online training option.

WA has enormous investments in knowledge capital that could easily be adapted, translated and deployed online in a way that could unlock that knowledge capital for export markets like East Java. Micro-credentials, mixed mode delivery options, training packages that engage learners through emerging technologies (VR, AR, AI, etc.) are lower risk opportunities that the market seems increasingly ready to adopt.

Like other industry linked training opportunities, the same caveats apply. Providers need to be invested in the networks, the market, the industries, and the TVET context of East Java in order to prepare for these opportunities.

Recommendation 3.
Preparing for the expansion of the digital economy in East Java.

Much has been written about the explosion of Indonesia's digital economy. More than 50% of Indonesia's 270 million people are under 30 years old, and own more than 100 million smart phones. Four of ASEAN's seven startups, valued at more than USD$1 billion (Unicorns), are Indonesian, with that anticipated to rise to seven by 2021. Despite this explosion, only 1.25% of economic transactions within the economy are digital – but this will undoubtedly soon change as digital platforms develop within Indonesia.

This research suggests that 85% of business leaders strongly agree with the proposition that their business will need to transform over the next decade to remain globally competitive. Sixty five percent remain highly confident in their future business, and more than 75% suggest that they will need more highly skilled staff to be able to meet those challenges. Around 50% of businesses surveyed either frequently (42%) or entirely (7%) conduct their businesses online. East Java has a reputation as a traditional manufacturing and trading economy, although research reveals that business leaders are convinced that their capacity to remain competitive in the midst of an expanding digital trading economy is a challenge.

Surabaya (East Java) has a strong reputation as a manufacturing hub, a traditional trading economy. The digital talent centres are to be found in Jakarta, Bandung and Jogyakarta. Industry leaders, particularly HIMPI, felt that this outsourcing of digital projects outside of East Java was unsustainable. Likewise, there is a strong sense amongst parents and young Indonesians that opportunities exist in the digital talent spaces, and therefore these course are inherently marketable.

The entire suite of skills required to satisfy the job-ready digital e-commerce requirements of business are another opportunity for WA providers to explore. The areas in which industry leaders anticipate a market include:

- Digital graphics and multimedia
- Mobile and web app development
- Digital product photography
- Online marketing
- Social media marketing
- Cloud computing
- Ecommerce

We likewise believe that the convergence of the suite of these practical based skills, would be the most marketable full-fee paying opportunity for a WA TVET training facility in East Java. They represent marketable and job ready skills, and are well suited to future freelance and small business opportunities.

Recommendation 4.
Training for the labour export market in East Java

There is increasing demand for foreign workers throughout the world. The International Labour Organization (IL0) note a 9% rise in international migrant workers to 164 million globally – up from less than 150 million in 2013. Also noteworthy, is that in high wealth developed economies, 18% of workers are foreign. Indonesia has long been a source for the labour migration market in low salary - low-skilled employment. Indonesia is a top three foreign labour source country globally, along with the Philippines and China. More than 9 million Indonesians are working overseas (7% of the labour market), and these workers contribute more than USD$9 billion in remittances. A recent World Bank report recommends that Indonesia create a professional job marketplace overseas by strengthening the skills of migrant workers in response to overseas demands and standards. This represents an opportunity for WA TVET providers.

Through the Temporary Skilled Shortages Visa (subclass 482), there are significant opportunities for WA providers to satisfy the skills assessment requirements for prospective short-term skilled workers in a range of fields, including:

1. Healthcare workers, particularly aged care (Japan, Korea, Australia)
2. Engineering and construction
3. Hospitality and tourism
4. Maritime and shipping
5. Manufacturing

This is a particularly timely opportunity now that Perth has resumed its classification by the Australian Government as a region, coupled with the increase in the total number of regional visas in areas of skills shortage.

There are already several VET providers identified from NSW and QLD that are actively recruiting prospective workers into training programs associated with occupations on the temporary skilled migration list. We found that these programs generally miss the opportunities presented through a general lack of understanding of the local market contexts. One example is related to the recruitment of health care workers, whereby English language training, and Certificate III qualifications are offered to Indonesian nurses in exchange for work opportunities and placement. These workers generally require years of English training to arrive at the required IELTS 6.0 capabilities, despite some context experience in basic healthcare. A more nuanced approach would be to offer the Certificate III to an already existing pool of competent English language practitioners, for whom the requisite qualifications/experience is a much faster and cost-effective pathway. This coupled with opportunities for foreign employers to train, sponsor and potentially bond candidates for TSS opportunities is something for WA providers to explore.

In this context of significant numbers of Indonesian workers overseas, and Australia's skill shortages, there is opportunity for WA RTO's to recruit students into programs which align with the shortage areas, to train for other countries skills shortages, and to train for foreign industries that have demand. This could be delivered either onshore or offshore, or a combination of delivery modes.

Recommendation 5.
Removing barriers to international competition for WA VET providers.
There is a range of potential barriers, identified by WA VET training providers, to increased involvement in international activities. Anticipated risks in international partnerships relate to commercial, reputational and safety concerns. Some of these barriers cannot be removed, and require recognition so they can be reacted to appropriately when planning international activities. Other barriers may be removed.

The majority of barriers cited arose from considerations in the context of the traditional mode of VET delivery: on the ground, face to face delivery of standard qualifications. A departure from these preconceptions of type and style of delivery, to the consideration of, for example, online micro credentials comprising skill sets, removes some of these barriers.

TAFE International in WA (TIWA) has a developed understanding of the market needs in East Java, and can align that with their knowledge of the capabilities of the WA TAFE colleges. Given this, the role of TIWA in identifying opportunities in East Java could be enhanced.

The safety of staff travelling and working overseas is an issue in some contexts, as institutions have to comply with the Department of Foreign Affairs and Trade country status alerts, which are often quite conservative and so may prevent engagement in a particular location. The time and lengthy process of travel approvals within the WA TAFE system also hampers institutions from attending many international trade and education fairs to explore new business opportunities.

The standards of facilities, curriculum and training provision in Indonesia where the services are being delivered, must be at Australian levels. This results in costs which may not be applicable to competitive VET providers from other countries, resulting in a more expensive Australian product. The IA-CEPA provisions for part ownership of in-country facilities may represent a long-term solution to some of these barriers.

Currency conversion issues could be an impediment in some countries, however all partnership contracts with TAFE colleges are now in Australian dollars, which ameliorates this issue. In general, in terms of cost effectiveness, there is a regulated minimum of 5% profit for TAFE projects, which of course could be higher depending on the partnership. However, instances may arise in which initial investments at no profit should be considered in the light of longer-term strategic development.

In some contexts, market pricing issues may be a barrier. In Indonesia, it may not be possible to be competitive because the costs for other international competitors are below what would be break-even costs for Australian institutions. Penetrating international markets involves dealing with intense competition from both local and other international VET providers with similar programs at more competitive prices. A consideration of alternative modes of delivery such as online and the use of VR may render competition barriers negligible.

The compliance costs and multiple layers of approval requirements related to Australian regulatory authorities are significant, and for the TAFE colleges, aligning with the costing models needed to meet government's treasury guidelines are significant, unlike the private RTOs.

Another economic related barrier for TAFE colleges is the limited budget available to explore international opportunities and establish a presence with clients offshore, as funding allocations are for local training, and the multiple layers of approval required to enter into international commercial activities could be perceived as a disincentive.

Streamlining the fiscal and other regulations related to international activity will be necessary if WA VET providers are to become agile and responsive to the opportunities that are available and will arise in the short term in Indonesia. More proactive fiscal measures may also be necessary such as budget allocations to enable the exploration of opportunities in Indonesia.

Recommendation 6.
Capitalising on the opportunity of tax incentives

In a very deliberate policy move to shift the critical task of TVET more substantially into the control of industry, Indonesian President Jokowi Widodo and his Minister for Finance, Sri Mulyani, announced in 2019 a super tax incentive for industry to invest in competency-based workplace skills training.

Under the proposed scheme, domestic taxpayers who carry out work practices, apprenticeship and/or learning activities in the framework of fostering and developing certain competency-based human resources can be given a tax deduction for investments in workplace skills training of 200%.

This scheme offers industry a substantial incentive to independently invest in TVET programs. The policy seeks to rapidly release much needed capital that can be invested in curricula development, training facility infrastructure, high quality industry trainers, technology training solutions and a range of other TVET related investments that result in work ready skills. This policy in turn opens the door for domestic and foreign TVET experts and providers to enter into partnerships that assist industry to develop TVET solutions.

This investigation detailed the situations in which many industries have felt it necessary to develop substantial in-house training solutions – often outside of the core business of their industry. This policy presents significant opportunities for incentivized discretion for industry to cooperate with high quality TVET providers in the development, planning and provision of training needs.

Tax incentives are often short lived, and so the timing is ideal for WA VET providers to capitalize on this emerging policy. There is a substantial cohort of companies in East Java who are concurrently profitable and have immediate human resource development demands. This policy makes these companies available for discussion on how WA VET providers, perhaps in cooperation with local partners, could co-develop solutions to training needs.

Appendix 1 outlines an overview of the currently available government policy regulations related to super tax incentives for Indonesian companies to independently invest in research and development, and vocational skills training. Our recommendation is that WA VET providers explore and identify opportunities arising from this policy incentive. This task, must of course, run parallel to recommendation two, in which we encourage WA VET providers to focus on more generally developing industry partnerships.

Recommendation 7:
Low risk entry strategies

It appears to be difficult and time consuming to discover, nurture and cooperate with an appropriate TVET partner in Indonesia. Australian VET providers from Queensland and Victoria who are active in Indonesia have spent a number of decades of investment to get to their current situation, and even now have not developed to the point of a joint venture campus.

Given the extensive investment required to become a significant VET provider in East Java, the initial entry to market strategy would best be low risk and low investment. In this context, low risk would most likely be associated with the externally funded (not student pays) provision of immediately useful skills which are not accredited. Funding could be from an aid agency, government or industry, and would most likely not be sustainable. However, such an entry strategy would provide an opportunity to establish a reputation, develop an awareness of the context, and explore continuing options.

Recommendation 8:
Train the Trainer

Train the trainer strategies will most likely be integral to much TVET provision in East Java. While this is one of the Indonesian Government strategies to deal with the scale of skilling necessary throughout the country, it also complements the goal of local sector capacity building that any VET provider will address when working in a developing country. A straightforward approach of delivery for profit, in the absence of considering the integration of capacity building strategies, is unlikely to be competitive or acceptable.

Recommendation 9.
Business development expertise investment in East Java

It is difficult to imagine success in capitalizing on the opportunities outlined in this report without an investment in business development expertise based in East Java. Therefore, the final recommendation of this report is that the WA VET sector explore the range of potential structural and funding models for an investment of expertise in helping the WA VET sector identify and realise more specific commercial opportunities.

These, and other potential actions, could form the basis for a business development strategy that will be necessary if the WA VET sector is going to realise the opportunities outlined in this report. The magnitude of the context, and the task of realizing the opportunities of market access to VET in East Java, makes a degree of collaboration and coordination necessary. It is therefore worth noting the advantages of the WA VET sector collaborating with a unified front in East Java. It is the approach that other international competitors have taken, for example through the Chinese Luban concept, the Swiss SECO project and even other state governments in Australia who have formed consortia to approach the Indonesian market (Northern Territory and Victoria).

The WA VET consortium is an example of a model that combines access to a substantial catalogue of content, and has a structure in place to develop commercial business opportunities. Whilst a broad variety of opportunities exist, it is difficult to imagine that realizing these opportunities will be possible for a VET provider operating without the resources that come with a consortium approach. A WA state supported business development model, or an expanded brief for TAFE International Western Australia (TIWA) may facilitate this requirement. It is noted that this is an action of the Market Action Plan – Indonesia (Austrade, 2019)

Models of Cooperation

The recommended strategies outlined above will result in a range of cooperation structures, which initially are likely to be low risk and short term. While the specific nature of each venture will be unique, it is useful for WA VET providers to be aware of the possibilities that may result. The IA-CEPA framework and the Partnerships Report by The Australia-Indonesia Centre (2019) outline a range of strategic venture structures.

Joint Ventures – the opportunities for a joint venture exists not only with private TVET providers, but directly with industry and government agencies. A joint venture would generally include the operation of a training facility where face to face teaching was delivered for a range of credentials.

Consortium Ventures – a logical proposition for WA providers would be to contemplate the advantages of shared resources, expertise, skills, content, and infrastructure. This has been developed to some extent through the West Australian Technical and Vocational Education and Training Consortium (WATVET Consortium). This approach has been adopted by the Victorian State Government, who have developed a consortia go-to-market strategy for Indonesia under the TAFE Victoria brand.

Strategic Partnership – partnering with East Java organizations to either license the local provider to deliver specific programs or developing programs which are jointly awarded requires significant negotiation and trust which involves the implementation of quality control mechanisms and detailed financial structures.

Part Acquisitions – the IA-CEPA guidelines provide for the part acquisition of facilities in Indonesia by Australian organizations. With around 200 private TVET providers in East Java, opportunities will undoubtedly develop for WA providers to drastically increase the value proposition of a provider through a part acquisition. There are many advantages to contemplate for building upon the structure of an existing in-market provider, though it is a longer term and potentially higher risk strategy.

Summary

There are undoubtedly other opportunities we could have legitimately included in the above recommendations. These may be opportunities with government agencies, state owned enterprises, overseas development assistance projects, and with emerging technologies that Indonesia has generally been less agile to prepare capacity for. For access to such opportunities, providers will need to develop a presence, experience, and capacity in-country. It is beyond the scope of this report to provide an in-depth market analysis of every sector of the EJ economy. Its purpose is to provide enough guidance to feel confident to determine which directions to explore further.

In collecting data for this project, there was a positivity expressed by WA VET providers regarding involvement in the opportunities available and developing in East Java. These opportunities will most effectively be availed through innovative approaches to seeking and developing partners, and the delivery of training. Endeavoring to transplant current structures and past practices into Indonesia are unlikely to be successful.

The WA VET providers are embracing digital technologies to drive competitive advantage. Online learning, blended and flipped study opportunities and the delivery of specific skill sets as micro credentials, although not currently common in VET discussion or practice, will most likely be the basis of successful futures, not only locally but also in East Java. The level of personal technological adoption in Indonesia generally is high, and when the benefits of new technologies are explicit, this is no longer a barrier to implementation. The concerns expressed related to online delivery (does not suit competency-based education), academic honesty and student verification (ensuring online work is done by the student submitting it) will need to be overcome.

One of the aims of this study was to identify specific opportunities in which the availability of skills training was not meeting the local demands of industry. Whilst there is advice from industry related specifically to some of these niche opportunities, these anecdotes need to be tested with a more focused treatment of due diligence, market research, and opportunity analysis. Included in this report is access to a range of resources that will be useful in this undertaking including a comprehensive list of around 30 business and professional associations related to these fields, a comprehensive list of more than 600 TVET providers in East Java, and a list of government and business development contacts.

The time seems right for WA VET institutions to play a more significant role in assisting Indonesia with developing a skilled workforce. Now that elections have settled in Indonesia, the President seems to be focusing on streamlining bureaucracy, dealing with corruption and recognizing the need for development in TVET in order to ensure long term economic development. Both the long-standing relationship between Western Australia and East Java, and the impending IA-CEPA agreement, support the signals that the climate is positive for increased WA involvement.

As a result of the research conducted for this project, we conclude that:

- There is capacity and interest from WA VET organizations to help address the vocational education and training needs in East Java.
- There are many vocational education and training needs in East Java to which WA VET providers can respond.
- It is imperative to make links with local organizations or industries in order to deliver vocational education and training in East Java.
- Innovative delivery mechanisms, pedagogical structures and content packages are most likely to be successful.
- Removing barriers to WA participation will facilitate market involvement.

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APPENDIX 1

Overview of the Vocational Skills, and Research and Development (R&D) Super Tax Deduction Incentives for Indonesia

October 2019

Indonesia Government Regulation Sources:

- PP No. 45/2019: https://drive.google.com/file/d/1Kz7xt6iB96SAjQKKyGwIT6EDnMRhMDAS/view?usp=sharing

- 128/PMK.010/2019: https://drive.google.com/file/d/1q7lCVh7H9F86Qm-uMK9hSLxgvlfrWO1L/view?usp=sharing

This document outlines an overview of the currently available government policy regulations related to super tax incentives for Indonesian companies to independently invest in research and development, and vocational skills training. Under the impending scheme, industries would be eligible to receive a 200% tax deduction for investments in workplace skills training, and a 300% tax deduction for investments in research and development.

Human capital development is one of the top five priorities for President Jokowi's second term (2019-2024) in government. To prepare high-quality human resources, encourage labor-intensive industries investment, support the jobs creation programs and support the role of the business world and industry in conducting research and development activities, President Jokowi signed and released the legal umbrella for the super deduction tax incentives on 25 June 2019.

The incentive is regulated under the Government Regulation of the Republic of Indonesia No. 45 of 2019 (PP No. 45/2019) related to the Amendment to Government Regulation No. 94 of 2010 about the Calculation of Non-Taxable Income and Repayment of Income Tax in the Current Year. Further provisions regarding these incentives are regulated under The Regulation of the Minister of Finance No. 128/PMK.010/2019.

Notes on PP No 45/2019

Article 29C:

1. Domestic taxpayers who carry out certain **research and development activities** in Indonesia can be given a reduction in gross income of a maximum of **300%** (three hundred percent) of the total expenses incurred for certain research and development activities in Indonesia that are charged for a certain period of time.

2. Those research and development activities should be carried out in Indonesia to **produce inventions, produce innovations, master new technologies, and/or transfer technology** for the development of industries to enhance national industrial competitiveness.

Regulation of the Minister of Finance No. 128/PMK.010/2019 regarding Vocational Skills Training Super Deduction.(Derivative regulation from PP No.45/2019)

The government will give 200% Gross Income Reduction for Corporate Taxpayers with expenses in work practice activities, apprenticeship, and/or learning activities to foster and develop human resource with certain competencies.

The regulation was signed and released by the Finance Minister, Sri Mulyani Indrawati on 6 September 2019. Below are the important points of the regulation:

The Recipient:
The Corporate Taxpayer must be a domestic company with expenses for work practices or apprenticeship or learning activities in order to foster and develop human resources with a certain competencies. They must fulfilled these requirement:

- Have done the work practices/apprenticeship/learning activities mentioned above
- Have a cooperation agreement
- Must not have fiscal loss in the current tax year
- Have to submit a fiscal statement

The subjects of vocational activities:
- Students and educators in vocational high school or vocational Madrasah
- University students and educators in a diploma program offered by university
- Trainees, trainer or instructor in vocational training centre
- Individuals who don't have work relationships with any parties, who will be coordinated by the government agencies in the human resources department. The activities will be held in the taxpayer's work place as part of training and develop human resources.

The activities:
- The learning activities coordinated by the taxpayer by assigning someone to teach in vocational high schools or a madrasah, or in a diploma program offered by a university or training centre.

Expenses
Expenses which are entitled to additional reduction in gross income includes:
a. Physical training facilities that is not fully used in a year and overhead costs including electricity, water, gas/fuel, maintenance costs – calculation will be proportionate with the utilisation for the activities.
b. Instructor or trainer for the activities
c. Materials for the activities
d. Honorarium to the students/trainee/work practice participants that dont have any work related and the trainer/instructor
e. Competencies certification

The additional gross income deduction include these expenses:
a. The cost to obtain tangible and intangible physical facilities with life span of more than 1 year – calculation for tangible good is based on the amortisation cost and the intangible is based on the month when the activities happened.
b. Other related expenses – calculation is based on the actual cost when occurred in the fiscal year
c. Training venue and other overhead cost (electricity, water, gas/fuel) that would not fully used in one year – calculation is based on the utilisation for the activities

Expenses for training participants who has a family connection in one degree, work related, or the owner/commisioners/director/manager of the taxpayer could not get the deduction.

Mechanism
To get the additional gross income reduction, taxpayers must notify through the OSS System by submitting their valid Work Agreement and Fiscal statement. When the documents are complete and correct, the OSS System will notify the qualified taxpayers.

Taxpayers who get the reduction in gross income are required to submit reports on the costs of work practices, apprenticeships, and learning tools in the context of developing and developing certain competency-based human resources annually to the Director General of Tax through the Head of the Tax Service Office.

Ministries and/or related Government Agencies can do evaluation of the effectiveness of granting a reduction in gross income, including:

a. Evaluation related to suitability of work practices, apprenticeship, and/or learning activities
b. Evaluation related to expertise of instructors
c. Evaluation related to increasing the competence of participants
d. Evaluation related to employment of participants

The evaluation shall be submitted to the Director General of Taxes and if it is considered ineffective, the reduction will not be given to the taxpayer for the following tax years.

APPENDIX 2

VET List of Competencies

Vocational High Schools or Vocational Madrasa	
Manufacturing Sector	
1.	Construction and Property Technology: Building Construction, Sanitation and Maintenance
2.	Construction and Property Technology: Road, Irrigation and Bridge Construction
3.	Construction and Property Technology: Construction and Property Business
4.	Construction and Property Technology: Modelling Design and Building Information
5.	Geomatics and Geospatial Engineering: Geomatics Engineering
6.	Geomatics and Geospatial Engineering: Geospatial Information
7.	Electricity Engineering: Electric Power Generation Engineering
8.	Electricity Engineering: Electric Power Network Engineering
9.	Electricity Engineering: Electric Power Installation Engineering
10.	Electricity Engineering: Industrial Automation Engineering
11.	Electricity Engineering: Refrigeration and Air Conditioning Engineering
12.	Electricity Engineering: Electric Power Engineering
13.	Mechanical Engineering: Mechanical Engineering
14.	Mechanical Engineering: Welding Engineering
15.	Mechanical Engineering: Metal Casting Engineering
16.	Mechanical Engineering: Industrial Mechanical Engineering
17.	Mechanical Engineering: Engineering Design and Mechanical Drawing
18.	Mechanical Engineering: Metal Fabrication and Manufacturing Engineering
19.	Aircraft Technology: Airframe Power Plant
20.	Aircraft Technology: Aircraft Machining
21.	Aircraft Technology: Aircraft Sheet Metal Forming
22.	Aircraft Technology: Airframe Mechanic
23.	Aircraft Technology: Aircraft Electricity
24.	Aircraft Technology: Aviation Electronics
25.	Aircraft Technology: Electrical Avionics
26.	Graphic Engineering: Graphic Design
27.	Graphic Engineering: Graphic Production
28.	Industrial Instrumentation Engineering: Metal Instrumentation Engineering
29.	Industrial Instrumentation Engineering: Instrumentation and Process Automation
30.	Industrial Instrumentation Engineering: Mechanical Control
31.	Industrial Engineering: Production Control Engineering
32.	Industrial Engineering: Logistics Engineering
33.	Industrial Engineering: Warehousing Engineering
34.	Textile Technology: Artificial Fiber Spinning Techniques
35.	Textile Technology: Yarn Making Techniques
36.	Textile Technology: Fabric Manufacturing Techniques

37.	Textile Technology: Textile Improvement Techniques
38.	Textile Technology: Clothing / Garment Production Techniques
39.	Chemical Engineering: Analysis of Laboratory Testing
40.	Chemical Engineering: Industrial Chemistry
41.	Chemical Engineering: Chemical Analysis
42.	Chemical Engineering: Textile Chemistry
43.	Automotive Engineering: Light Vehicle Automotive Engineering
44.	Automotive Engineering: Motorcycle Engineering and Business
45.	Automotive Engineering: Heavy Equipment Engineering
46.	Automotive Engineering: Automotive Body Engineering
47.	Automotive Engineering: Ototronic Engineering
48.	Automotive Engineering: Automotive Maintenance Engineering and Management
49.	Automotive Engineering: Automotive Power and Energy Conversion
50.	Shipping Engineering: Steel Ship Construction
51.	Shipping Engineering: Non-Steel Ship Construction
52.	Shipping Engineering: Ship Mechanical Engineering
53.	Shipping Engineering: Ship Welding Engineering
54.	Shipping Engineering: Ship Electrical Engineering
55.	Shipping Engineering: Ship Design
56.	Shipping Engineering: Ship Interior
57.	Electronics Engineering: Audio Video Engineering
58.	Electronics Engineering: Industrial Electronics Engineering
59.	Electronics Engineering: Mechatronics Engineering
60.	Electronics Engineering: Power and Communication Electronics Engineering
61.	Electronics Engineering: Medical Instrumentation
62.	Petroleum Engineering: Oil and Gas Production Engineering
63.	Petroleum Engineering: Oil and Gas Drilling Engineering
64.	Petroleum Engineering: Oil, Gas and Petrochemical Processing Engineering
65.	Mining Geology
66.	Renewable Energy Engineering: Solar, Hydro and Wind Energy Engineering
67.	Renewable Energy Engineering: Biomass Energy Engineering
68.	Computer and Information Technology: Software Engineering
69.	Computer and Information Technology: Computer and Network Engineering
70.	Computer and Information Technology: Multimedia
71.	Computer and Information Technology: Information Systems, Networks and Applications
72.	Telecommunications Engineering: Telecommunications Transmission Engineering
73.	Telecommunications Engineering: Telecommunications Access Network Engineering
Health Sector	
74.	Nursing
75.	Dental health

76.	Medical Laboratory Technology
77.	Pharmacy: Clinical and Community Pharmacy
78.	Pharmacy: Industrial Pharmacy
79.	Social Care
80.	Caregiver
Agribusiness Sector	
81.	Plant Agribusiness: Food Crops and Horticulture Agribusiness
82.	Plant Agribusiness: Plantations Agribusiness
83.	Plant Agribusiness: Plant Breeding and Seed
84.	Plant Agribusiness: Landscaping
85.	Plant Agribusiness: Plantation Production and Management
86.	Plant Agribusiness: Organic Ecological Agribusiness
87.	Livestock Agribusiness: Ruminant Livestock Agribusiness
88.	Livestock Agribusiness: Poultry Agribusiness
89.	Livestock Agribusiness: Livestock Industry
90.	Animal Nursing
91.	Animal Health and Reproduction
92.	Processing of Agricultural Products: Processing of Agricultural Products
93.	Processing of Agricultural Products: Quality Control of Agricultural Products
94.	Processing of Agricultural Products: Agro-industry
95.	Agricultural Engineering: Agricultural Machine Tools
96.	Agricultural Engineering: Agricultural Automation
97.	Forestry: Forest Inventory and Mapping Techniques
98.	Forestry: Forest Resources Conservation Techniques
99.	Forestry: Forest Rehabilitation and Reclamation Techniques
100.	Forestry: Technology of Forest Production
101.	Nautical Fishing Vessels
102.	Fishing Vessels Engineering
103.	Nautical Ships of Commerce
104.	Commerce Ship Engineering
105.	Fisheries: Freshwater Fisheries Agribusiness
106.	Fisheries: Brackish and Sea Water Fisheries Agribusiness
107.	Fisheries: Ornamental Fish Agribusiness
108.	Fisheries: Seaweed Agribusiness
109.	Fisheries: Marine Fisheries Industry
110.	Fishery Product Processing Agribusiness
Tourism and Creative Industry Sector	
111.	Travel Agency
112.	Hospitality
113.	Maritime Tourism and Ecotourism

114.	Hotels and Restaurants
115.	Culinary art
116.	Fashion
117.	Fashion Design
118.	Fine Arts: Painting
119.	Fine Art: Sculpture
120.	Fine Arts: Visual Communication Design
121.	Fine Arts: Interior and Furniture Design
122.	Fine Arts: Animation
123.	Batik and Textile Crafts
124.	Leather and Imitation Leather Crafts
125.	Ceramic Crafts
126.	Metal and Jewellery Crafts
127.	Wooden and Rattan Crafts
Higher Education or Vocational Diploma Programs	
Manufacturing Sector	
1.	Chemistry: Chemical Analysis
2.	Chemistry: Food Industry Quality Assurance
3.	Chemistry: Chemical Industry Waste Management
4.	Chemistry: Industrial Chemistry
5.	Chemistry: Textile Chemistry
6.	Chemical Engineering: Protective Coating
7.	Chemical Engineering: Manufacturing of Mechanical Hand Tools
8.	Chemical Engineering: Manufacturing of Glass Products
9.	Chemical Engineering: Oil and Gas Processing Technology
10.	Chemical Engineering: Polymer Chemical Technology
11.	Chemical Engineering: Mineral Technology
12.	Chemical Engineering: Chemical Technology of Vegetable Materials
13.	Chemical Engineering: Industrial Chemical Engineering Technology
14.	Chemical Engineering: Clean Engineering Technology
15.	Physics Engineering: Heating, Ventilation and Air Conditioning
16.	Physics Engineering: Instrumentation Technology
17.	Physics Engineering: Instrumentation Technology Engineering
18.	Physics Engineering: Instrumentation and Control Engineering Technology
19.	Physics Engineering: Robotics Engineering Technology
20.	Physics Engineering: Instrumentation and Metrology
21.	Electrical Engineering: Installation and Maintenance of Low-Voltage Cables
22.	Electrical Engineering: Installation and Maintenance of High-Voltage Cables
23.	Electrical Engineering: Maintenance of Electric Transmission Lines

24.	Electrical Engineering: Electrical Technology
25.	Electrical Engineering: Technology in Electrical Installation Engineering
26.	Electrical Engineering: Metal Industry Electrical Technology
27.	Electrical Engineering: Energy Generation Engineering Technology
28.	Electrical Engineering: Electrical Railway Technology
29.	Electrical Engineering: Electronics Technology
30.	Electrical Engineering: Electronic Engineering Technology
31.	Electrical Engineering: Electronic Systems Engineering Technology
32.	Electrical Engineering: Automation Technology
33.	Electrical Engineering: Automation Engineering Technology
34.	Mechanical Engineering: Air Conditioning Installation and Maintenance
35.	Mechanical Engineering: Operation and Maintenance of Wood Cutting Machines
36.	Mechanical Engineering: Making Key
37.	Mechanical Engineering: Making Fences
38.	Mechanical Engineering: Motor Vehicle Testing
39.	Mechanical Engineering: Crane Operation and Maintenance
40.	Mechanical Engineering: Heavy Equipment Operations and Maintenance
41.	Mechanical Engineering: Mechanical Design Technology
42.	Mechanical Engineering: Machine Tool Design Technology
43.	Mechanical Engineering: Precision Tool Design Technology
44.	Mechanical Engineering: Mechanical Design Engineering
45.	Mechanical Engineering: Electronic Manufacturing Technology
46.	Mechanical Engineering: Manufacturing Engineering Technology
47.	Mechanical Engineering: Manufacturing Design Engineering Technology
48.	Mechanical Engineering: Technology for Making Machine Tools
49.	Mechanical Engineering: Technology for Making Precision Tools
50.	Mechanical Engineering: Cooling and Air Conditioning Technology
51.	Mechanical Engineering: Machinery System Automation
52.	Mechanical Engineering: Mechatronics
53.	Mechanical Engineering: Mechatronic Engineering Technology
54.	Mechanical Engineering: Machine Maintenance
55.	Mechanical Engineering: Maintenance of Automotive Machines
56.	Mechanical Engineering: Maintenance of Metal Industry Machinery
57.	Mechanical Engineering: Heavy Equipment Technology
58.	Mechanical Engineering: Heavy Equipment Maintenance
59.	Mechanical Engineering: Heavy Equipment Maintenance Engineering
60.	Mechanical Engineering: Automotive Mechanics Technology
61.	Mechanical Engineering: Railway Mechanics Technology
62.	Mechanical Engineering: Energy Conversion Technology
63.	Mechanical Engineering: Textile Engineering Technology

64.	Civil Engineering: Foundation, Concrete, and Asphalt Road
65.	Civil Engineering: Scaffolding
66.	Civil Engineering: Procedures for Procurement of Civil Building Construction
67.	Civil Engineering: Making Civil Building Foundations
68.	Civil Engineering: Waterways and Piping
69.	Civil Engineering: Drilling
70.	Civil Engineering: Water Utility Care
71.	Civil Engineering: Building Construction Engineering Technology
72.	Civil Engineering: Building Construction Technology
73.	Civil Engineering: Water Building Construction Engineering Technology
74.	Civil Engineering: Water Building Construction Technology
75.	Civil Engineering: Building and Railroad Technology
76.	Civil Engineering: Road and Bridge Construction Engineering Technology
77.	Civil Engineering: Road and Bridge Construction Technology
78.	Civil Engineering: Swamp Building Engineering Technology
79.	Civil Engineering: Transportation Engineering Technology
80.	Civil Engineering: Civil Building Management and Maintenance Engineering Technology
81.	Civil Engineering: Land and Water Resources Engineering Technology
82.	Civil Engineering: Piping Technology
83.	Industrial Engineering: Tire Production Operations
84.	Industrial Engineering: Special Material Packaging
85.	Industrial Engineering: Industrial Technology
86.	Industrial Engineering: Logistics Engineering Technology
87.	Industrial Engineering: Automotive Industrial Engineering Technology
88.	Geological Engineering
89.	Petroleum Engineering
90.	Mining Engineering: Mining Technology
91.	Mining Engineering: Coal Mining Technology
92.	Mining Engineering: Technology for Oil and Gas Exploration
93.	Mining Engineering: Mineral Mining Technology
94.	Material Engineering: Metallurgical Technology
95.	Material Engineering: Metal Industry Metallurgical Technology
96.	Material Engineering: Metal Casting Technology
97.	Material Engineering: Metal Welding Technology
98.	Material Engineering: Rubber and Plastic Processing Technology
99.	Material Engineering: Skin Processing Technology
100.	Aerospace Engineering: Aeronautical Engineering
101.	Aerospace Engineering: Aircraft Electronic Systems
102.	Aerospace Engineering: Aircraft Motors
103.	Aerospace Engineering: Aeronautics

104. Aerospace Engineering: Aircraft Maintenance Technology
105. Ship Engineering: Ship Electrical Systems
106. Ship Engineering: Ship Mechanical
107. Ship Engineering: Ship Design and Construction Technology
108. Ship Engineering: Ship Architecture Engineering Technology
109. Ship Engineering: Ship Building Construction Technology
110. Ship Engineering: Ship Construction Engineering Technology
111. Geomatics Engineering: Remote Sensing Technology
112. Geomatics Engineering: Remote Sensing Engineering Technology
113. Geomatics Engineering: Surveying and Mapping
114. Environmental Engineering: Environmental Technology
115. Environmental Engineering: Environmental Pollution Control Engineering Technology
116. Marine Engineering
117. Renewable Energy Engineering
118. 3D Printing and Graphic Engineering Technology
119. Thread Making Techniques
120. Fabric Manufacturing Techniques
121. Garment Making Techniques
122. Garment Production
123. Furniture Production Techniques
124. Furniture Design
Health Sector
125. Biomedical Engineering: Electro-medical Technology
126. Biomedical Engineering: Electro-medical Engineering Technology
127. Blood Transfusion Technology
128. Skin and Hair Health
129. Pharmacy
130. Nutrition
131. Nutrition and Dietetics
132. Clinical Nutrition
133. Public Health: Epidemiological Monitoring
134. Midwifery
135. Nursing
136. Traditional Medicine
137. Jamu / Traditional Potion
138. Audiology
139. Blood Bank Technology
140. Cardiovascular Techniques
141. Medical Laboratory Technology
142. Dental Health

143. Dental Engineering
144. Dental Therapy
145. Pharmaceutical and Food Analysis
146. Nursing Anesthesiology
147. Occupational Therapy
148. Optometry
149. Orthotic and Prosthetic
150. Physiotherapy
151. Radiology
152. Sanitation
153. Speech Therapy
154. Speech and Language Therapy
155. Acupuncture
Agribusiness Sector
156. Agriculture: Plant Pest Control
157. Agriculture: Dry Land Farming
158. Agriculture: Management of Dry Land Agriculture
159. Agriculture: Seed Technology
160. Agriculture: Horticultural Crops Cultivation
161. Agriculture: Horticultural Crop Production Technology
162. Agriculture: Food Crop Cultivation
163. Agriculture: Food Crop Production Technology
164. Agriculture: Plantation Plant Cultivation
165. Agriculture: Crop Production Technology
166. Agriculture: Agricultural Product Technology (Farm)
167. Agriculture: Agricultural Product Technology (Plantation)
168. Agriculture: Plantation Management
169. Agriculture: Plantation Product Management
170. Agriculture: Agribusiness Agriculture
171. Agriculture: Agricultural Water System
172. Forestry: Wood Processing
173. Forestry: Carpentry
174. Forestry: Forest Management
175. Forestry: Management of Natural Forests Production
176. Forestry: Management of Forest Products
177. Forestry: Processing of Forest Products
178. Forestry: Wood Product Technology
179. Forestry: Wood Engineering
180. Forestry: Forest Plant Cultivation
181. Animal Husbandry: Artificial Insimination

182. Animal Husbandry: Beekeeping
183. Animal Husbandry: Rearing Animals
184. Animal Husbandry: Breeding Horses
185. Animal Husbandry: Meat Processing
186. Animal Husbandry: Milk Processing
187. Animal Husbandry: Animal Milking
188. Animal Husbandry: Milk Quality Testing
189. Animal Husbandry: Horse Training
190. Animal Husbandry: Animal Husbandry
191. Animal Husbandry: Animal Production Technology
192. Animal Husbandry: Animal Nutrition
193. Animal Husbandry: Animal Feed Technology
194. Animal Husbandry: Livestock Product Processing Technology
195. Animal Husbandry: Animal Husbandry Business
196. Animal Husbandry: Animal Husbandry Agribusiness
197. Animal Husbandry: Poultry Farming Business
198. Animal Husbandry: Poultry Agribusiness
199. Fisheries: Fisheries Biotechnology
200. Fisheries: Processing of Marine Products / Fisheries
201. Fisheries: Processing and Storage of Fishery Products
202. Fisheries: Captured Fisheries
203. Fisheries: Fish Cultivation
204. Fisheries: Fish Hatchery Technology
205. Fisheries: Fish Hatchery
206. Fisheries: Fish Cultivation Business
207. Fisheries: Fisheries Agribusiness
208. Biosystems Technology: Agricultural Mechanisation Technology
209. Biosystems Technology: Agricultural Machinery Engineering Technology
210. Chemical Engineering: Sugar Processing Technology
211. Chemical Engineering: Palm Processing Technology
212. Chemical Engineering: Palm Oil Processing Technology
213. Chemical Engineering: Agro Industrial Manufacturing Technology
214. Agricultural Industrial Technology: Agro-industry
215. Agricultural Industrial Technology: Development of Environmental Agro-Industry
216. Products: Environmental Management
217. Environment: Management of Land Resources
218. Food Technology
219. Food Engineering Technology
Tourism and Creative Industry
220. Tourism: Hotel Reception

221. Tourism: Tourism Guides
222. Tourism: Catering Services
223. Tourism: Food and Beverage Service
224. Tourism: Management of Recreational Enterprises
225. Tourism: Ecotourism
226. Tourism: Hospitality Management
227. Tourism: Culinary Arts
228. Tourism: Patisseries Processing
229. Tourism: Food Display
230. Tourism: Travel
231. Tourism: Management of Conventions and Events
232. Art: Fine Art
233. Art: Ceramic Crafts
234. Art: Metal Crafts
235. Art: Wood Crafts
236. Art: Fabric Crafts
237. Art: Batik Crafts
238. Art: Weaving Craft
239. Art: Painting
240. Design: Batik Fashion Design
241. Design: Weaving Fashion Design
242. Design: Textile Design
243. Design: Multimedia
244. Design: Visual Communication Design
245. Design: Graphic Design
Digital Economy Sector
246. Animation
247. Design: Digital Design
248. Design: Printing
249. Computers: Information Systems
250. Computers: Information System Security
251. Computers: Software Engineering Technology
252. Computers: Software Engineering
253. Computers: Graphic Computer Technology
254. Computers: Graphic Computer Engineering Technology
255. Computers: Multimedia Engineering Technology
256. Computers: Graphic Multimedia Engineering Technology
257. Computers: Game Design
258. Computers: Game Technology
259. Computers: Artificial Intelligence and Robotics

260.	Computers: Cyber Security Engineering
261.	Computer Engineering: Software Testing
262.	Computer Engineering: Computer Engineering Technology
263.	Computer Engineering: Computer Network Engineering Technology
264.	Telecommunications Engineering: Cellular Operations
265.	Telecommunications Engineering: Telecommunications Technology
266.	Telecommunications Engineering: Telecommunications Engineering Technology
267.	Telecommunications Engineering: Telecommunications Network Engineering Technology
268.	Telecommunications Engineering: Internet Engineering Technology
Vocational Training Centres	
Manufacturing Sector	
1.	Manufacturing Engineering: Plate Work
2.	Manufacturing Engineering: Production Machines
3.	Welding Engineering: Industrial Welding
4.	Welding Engineering: Fabrication
5.	Automotive Engineering: Light Vehicle Engineering
6.	Automotive Engineering: Motorcycle Engineering
7.	Automotive Engineering: Heavy Equipment Engineering
8.	Electrical Engineering: Lighting Installation
9.	Electrical Engineering: Power Installation
10.	Electrical Engineering: Industrial Automation
11.	Electronics Engineering: Telecommunications
12.	Electronics Engineering: Instrumentation and Control
13.	Electronics Engineering: Video Audio
14.	Refrigeration: Domestic Refrigeration Techniques
15.	Refrigeration: Mechanical Air Conditioning
16.	Building: Stone and Concrete Construction
17.	Building: Wood Construction
18.	Building: Building Image
19.	Building: Furniture
Agribusiness Sector	
20.	Agriculture: Agricultural Mechanisation
21.	Agriculture: Food Crops
22.	Agriculture: Horticulture
23.	Agriculture: Mix Farming
24.	Agriculture: Land Processing
25.	Agriculture: Land Conservation
26.	Agriculture: Crop Cultivation
27.	Fisheries: Fishing

28.	Fisheries: Aquaculture
29.	Agricultural Product Processing
30.	Fishery Product Processing
31.	Animal Husbandry Product Processing
32.	Agribusiness: Agribusiness Plant Production
33.	Agribusiness: Agribusiness Livestock Production
34.	Agribusiness: Agribusiness Production of Aquatic Resources
Tourism Sector and Creative Industries	
35.	Tourism: Hospitality
36.	Batik Design: Written Batik Technique
37.	Batik Design: Stamped Batik Technique
38.	Leather Processing: Leather Tannery
39.	Leather Processing: Leather Finishing
40.	Leather Processing: Manufacturing of Leather Products
41.	Creative Industries: Metal Carving Techniques
42.	Creative Industries: Wood Carving Techniques
43.	Creative Industries: Crochet
44.	Creative Industries: Embroidering
45.	Creative Industries: Weaving
46.	Creative Industries: Screen Printing
47.	Creative Industries: Matting
Digital Economy Sector	
48.	Information and Communication Technology: Networking
49.	Information and Communication Technology: Technical Support
50.	Information and Communication Technology: Computer Engineering
51.	Information and Communication Technology: Programming
52.	Information and Communication Technology: Database
53.	Information and Communication Technology: Graphic Design
54.	Information and Communication Technology: Office Tools
Migrant Workers Sector	
55.	Housekeeper
56.	Guardians of the Elderly
57.	Caregiver (Babies/Toddlers)
58.	Childcare

APPENDIX 3

Appendix 3. East Java Industry Survey

Whilst the survey was presented in Bahasa Indonesia, the following is an English language translation of the survey. The original version in Bahasa Indonesia is available online at:
https://saksara-research.typeform.com/to/O0Bwn2

East Java Industry Survey	
	Your Business Industry
1.	HIPMI / APINDO in association with an Australian Trade and Investment Commission (Austrade) and WA Government Project are investigating industry experiences related to vocational education and training. This short survey will help us to better understand industry in East Java, and we will share the results live for us to all learn more together. The survey can be completed in 3–5 mins.
2.	**Which category best describes your primary business.** 1. Primary (Agriculture & Extraction) 2. Secondary (Manufacturing) 3. Tertiary (Services) 4. Quatermary (Research & Development)
	Branch question from No. 1: **Which best describes the nature of your primary / secondary / tertiary business?** 1. Agriculture 2. Mining 3. Fisheries 4. Livestock 5. Forestry 1. Clothing and textiles 2. Furniture / homewares 3. Construction / Building 4. Chemical and Consumer 5. Food processing 6. Energy 7. Transportation 8. Electrical and Technology 9. Industrial 10. Other 1. Hospitality and Tourism 2. Retail 3. Financial & Legal Service 4. Media 5. Health 6. Logistics 7. Education 8. IT / e-commerce 9. Fashion / Design 10. Other
3.	**Where is your primary business physically located?** 1. Surabaya only 2. Throughout East Java 3. Throughout Indonesia 4. Globally

4.	How many people does your company employ? 1. Less than 10 2. 11–50 3. 50–250 4. 250–1,000 5. 1,000+
	Staff Skills
5.	To what extent does the Vocational Education and Training (VET) sector in East Java graduate students with job-ready competencies for your business? 1-10
6.	To what extent does your business provide training to equip staff with the skills required to be productive? 1. Basic induction training 2. Mentoring and on-the-job training 3. Intensive in-house training program 4. Partnerships with external training providers
7.	How would you rate the soft skills of your VET graduate staff? Soft skills: numeracy, literacy, communication 1–10
8.	To what extent do you feel there is an oversupply or undersupply of access to qualified staff in your industry? 1-10
9.	Are there any work skills that your business has difficulty accessing? Please list.
10.	Do you have any formal relationship with vocational training institutions in East Java (SMK, Polytech, Academy, Institute etc.)?
11.	If yes A: Is the partner institution private or government? Private Provider Government Provider We partner with both
12.	If yes B: Which of the following contributions does your business make to the relationship with the vocational training institution? Note: You can choose more than one. Placement of students on internships A commitment to recruit graduates Contributing to the training of vocational teachers Contributing to Curriculum Development A jointly funded program for vocational training
13.	What is the approximate number of staff with some vocational training that you would employ in a year? Less than 10 10-50 50-100 100+
	The Future
14.	To what extent do you anticipate your business will need to transform in the next 10 years to remain globally competitive? 1-10
15.	How would you rate your current level of business confidence? 1-10

16.	How you best describe your anticipated needs for skilled staff for the next 10 years? 1. We anticipate needing more skilled staff 2. We anticipating about the same staffing levels 3. We anticipate needing less skilled staff
17.	To what extent do you conduct business online? 1. Never 2. Sometimes 3. Frequently 4. Entirely

APPENDIX 4

East Java VET Contacts

Click here https://www.saksara.com/wa-vet-east-java to go to a full contacts list with more detail.

Contact Group	Full Name	Institution	Department
Institution Contacts	Prof. Dr. Ir. Ifar Subagiyo	Universitas Brawijaya	International Office
	Lina Purwaning Hartanti, M.EIL.	Universitas Negeri Surabaya	International Office
	Prof Dr Ni Nyoman Tri Puspaningsih, Dra., M.Si.	Airlangga University	Institute for Tropical Disease University Airlangga
			Airlangga Global Engagement
	Maria Anityasari, Ph.D.	Institute Teknologi Sepuluh Nopember	International Office
	Dian Ekowati, Ph.D.	Airlangga University	Airlangga Global Engagement
	Dr Wulan Retno Wigati	Universitas Pembangunan Nasional 'Veteran' Jawa Timur	Language Center & International Affairs Office
	Prof. Akh. Muzakki, M. Ag, Grad. Dip. SEM, M. Phil, Ph.D.	Universitas Islam Sunan Ampel	Faculty of Economics and Islamic Business
		East Java Education Council	
	Helmy Abdullah	Politeknik Negeri Malang RISTEK DIKTI Retooling	
	Nemuel Daniel Pah, Ph.D.	Universitas Surabaya	
	Djuwari, Ph.D.	Universitas Surabaya	Faculty of Engineering
	Viqi Ardaniah, S.S., M.A. Linguistics	Airlangga University	Airlangga Global Engagement
	Prof. Dr. Retna Apsari, M.Si.	Airlangga University	Faculty of Vocational Studies
	Dr. Imam Wahyudi Karimullah, MA	Universitas Islam Malang	Office of International Affairs
Education Association Contacts	George Iwan Marantika	APTISI (Asosiasi Perguruan Tinggi Swasta Indonesia/ Association of Indonesian Private Higher Education	
	Albertus B. Setiawan, Dipl. Ing., MT	APII (Asosiasi Politeknik dan Industri Indonesia/ Association of Indonesian Polytechnic and Industry)	
	Dr. Ismet P Ilyas, BSMET, M.Eng.Sc	APII (Asosiasi Politeknik dan Industri Indonesia/ Association of Indonesian Polytechnic and Industry)	
		Politeknik Manufaktur Negeri Bandung	Design Engineering

Contact Group	Full Name	Institution	Department
Industry Contacts	Onny Asri M. Almasyhur	Kamar Dagang dan Industri Jawa Timur (East Java Chamber of Commerce and Industry)	
		PT Lintas Niaga Jaya	
	Ir Haryanto	APINDO (Asosiasi Pengusaha Indonesia/The Employers' Association of Indonesia) DPP East Java	
		PT PAL	
	Priantono Soebekti	APINDO (Asosiasi Pengusaha Indonesia/The Employers' Association of Indonesia) DPP East Java	
		PT Bank Central Asia, Tbk. (BCA)	
	Fahmirza	APINDO (Asosiasi Pengusaha Indonesia/The Employers' Association of Indonesia) DPP East Java	
		PT Steel Pipe Industry of Indonesia, Tbk.	
	Dwi Ken Hendrawanto, SH	APINDO (Asosiasi Pengusaha Indonesia/The Employers' Association of Indonesia) DPP East Java	
		PT Susanti Megah	
	Richard Budiman	APINDO (Asosiasi Pengusaha Indonesia/The Employers' Association of Indonesia) DPP East Java	
		PT Wonokoyo Jaya Corporindo	
	Bambang Darundriyo	APINDO (Asosiasi Pengusaha Indonesia/The Employers' Association of Indonesia) DPP East Java	
		PT Indofood Sukses Makmur Tbk.	
	M Luthfy SE M.Si	HIPMI (Himpunan Pengusaha Muda Indonesia/Association of Indonesian Young Entrepreneurs)	
	Anantha Wijaya, BBA	HIPMI (Himpunan Pengusaha Muda Indonesia/Association of Indonesian Young Entrepreneurs)	

Contact Group	Full Name	Institution	Department
	Kuswana Mandiri Septian	HIPMI (Himpunan Pengusaha Muda Indonesia/Association of Indonesian Young Entrepreneurs)	
	Lita Hudianto	IABC East Java (Indonesia Australia Business Council)	
		PT Steel Pipe Industry of Indonesia, Tbk	
	Purwadi Hendropurnomo	IABC East Java (Indonesia Australia Business Council)	
		PT Impact Indonesia (Collapsible Tubes & Slugs Maker)	
	Peter Sheehan	Indonesia Australia Business Council	IABC East Java Chapter
	Arief Budiman	Indonesia Australia Business Council	IABC East Java Chapter
	Antony Harsono	Indonesia Australia Business Council	IABC East Java Chapter
	Benaya V. Jaya	AusAsiaWorld Pty Ltd	
Australian Government	Aris Pratama	Australian Government	Australian Trade and Investment Commission
	Dr Paul Zeccola	Australian Consulate General	
Other Contacts	Drs. Achmad Basofi M.Si	BKPM (Badan Koordinasi Penanaman Modal/ Investment Board of East Java Province)	
	Pranatal Hutajulu, SH. SIK. MH	Indonesian National Police	East Java Regional Police
	Prof. Dr. Ir. Loekito Adi Soehono, M. Agr	Loekito Education group	

APPENDIX 5

East Java Industry Associations

Sub-Category	Association		Website	Brief Purpose
Sugar	AGI (Asosiasi Gula Indonesia	*Indonesian Sugar Association*	http://asosiasigulaindonesia.org	Fighting for the members' aspiration by synergising them with the interest of other parties in order to improve national sugar industry and formulating national sugar industry policy.
Vegetable Oil	GIMNI (Gabungan Industri Minyak Nabati Indonesia)	*Indonesian Vegetable Oil Industry Association*	http://gimni.org	Gathering companies in vegetable industry in Indonesia to create a strong economic power resulting in community prosperity and being a partner to the National and Local Government to develop policies related to vegetable oil.
Transportation (Motorcycle)	AISI (Asosiasi Industri Sepeda Motor Indonesia)	*Indonesian Motorcycle Industry Association*	http://www.aisi.or.id	Becoming the counterpart of the Government in developing competitive and responsible motorcycle business and industries, helping members achieve efficient motorcycle production, maintaining favourable business climate and environment that are conducive to the development of the motorcycle industrial/distribution system, and maintaining fair and ethical business practices within the motorcycle trade and industry.
Electrical (Lamp)	APERLINDO (Asosiasi Industri Perlampuan Listrik Indonesia)	*Indonesian Electricity Industry Association*	http://www.aperlindo.org/303848386	Creating a world-class and updated lamp industry in Indonesia which contributes in improving the community prosperity and the acceleration of national development, with high environmental and natural preservation awareness.
Textile	API (Asosiasi Pertekstilan Indonesia)	*Indonesian Textile Association*	http://indonesiatextile.id/profile/	Being a communication and consultation platform for the association members for every interests related to textile industry and trade as well as textile products. Their principal functions are to represent the members in various policy making forums and communicating with the government and other institutions, both national or foreign.
Toys	APMI (Asosiasi Pengusaha Mainan Indonesia)	*Indonesian Toy Entrepreneurs Association*	http://indonesiantoys.org	Creating and developing a competitive toy industry in Indonesia by consolidating members' ideas for business performance and competition improvement, providing informations among members, coordinating research/discovery, coordinating training and education for members' benefit, establishing communication channels between members with local or overseas government, and creating business opportunities with national and/or international corporation.
Electrical Equipment	APPI (Asosiasi Produsen Peralatan Listrik Indonesia)	*Indonesian Electrical Equipment Manufacturers Association*	https://appi-electric.co.id	Creating National Electricity Support Industry which is chosen by Indonesia's Electric Power Provider Companies, both relating to quality, reliability, and availability. Also manifesting world-class, competitive, and qualified Indonesian electrical equipment industry that meets all its standards and specifications and constantly adapting to new technological advancements.

Sub-Category	Association		Website	Brief Purpose
Fertilizer	APPI (Asosiasi Produsen Pupuk Indonesia)	*Indonesian Fertilizer Manufacturers Association*	http://www.appi.or.id/cgi-sys/suspendedpage.cgi *web suspended	Organising all fertiliser industries in Indonesia based on sound industrial principal cooperation for the benefit of all members and to strengthen national development in general. Source: http://ulin21.com/appi/content/about-us
Textile (Synthetic Fiber)	APSyFi (Asosiasi Produsen Synthetic Fiber Indonesia)	*Indonesian Synthetic Fiber Producer Association*	http://www.apsyfi.org	N/A
Flour	APTINDO (Asosiasi Produsen Tepung Terigu Indonesia)	*Indonesian Flour Producers Association*	http://aptindo.or.id	Increasing the cooperation of national flour industry in the area of management, technology, and market improvement as well as the cooperation with the government agencies and private organizations related to flour industry, especially the Indonesian Chamber of Commerce. In addition, they also maintain cooperation between business entities to support each others and small medium enterprises by putting people's welfare as a priority.
Chemical (Synthetic Resin)	ARSI (Asosiasi Sintetik Resin Indonesia)	*Indonesian Resin Synthetic Association*	http://arsi.sixtenindo.co.id	Becoming a recognised association in Asia through actively encouraging and facilitating industry members related to Synthetic Resin, Pigment, and Plasticiser to grow and develop in line with the Indonesian Government's duty to create a just and prosperous society.
Construction/ Building (Cement)	ASI (Asosiasi Semen Indonesia)	*Indonesian Cement Association*	https://asi.or.id	Supporting the acceleration of development and economic growth in Indonesia through motivating all domestic cement producers to be good and healthy industrial citizens. A few of their principal objectives consists of: Acting as a bridge and channel of communication, consultation and information with the government and other relevant institutions at national, regional, and international levels in accordance to supporting the control of efforts to prevent damages and pollution to the environment Supporting and promoting the utilisation level of cement and concrete, construction material, and cement products for building material as well as other efforts Supporting and promoting the realisation of quality standards and certification in relation to the cement industry
Industrial (Machine)	ASIMPI (Asosiasi Industri Mesin Perkakas Indonesia)	*Indonesian Tool Machine Industry Association*	http://asimpi-indonesia.blogspot.com	Helping the government in creating policies related to Indonesian Machine Tool Industry, representing the interests of members in forums — both with the government or other domestic or international organizations, increasing members' competitiveness by advancing the appropriate machine tool technology, helping members in increasing employment opportunities, and providing information exchange facilities for members.

Sub-Category	Association		Website	Brief Purpose
Packaging	Federasi Pengemasan Indonesia	*Indonesian Packaging Federation*	https://revision.packindo.org/oldversion/	Enhancing the packaging quality and technology development as well as encouraging research and development in the packaging innovations by providing a platform for their members to share informations, networking, business matching, education/training, workshop, factory visit, seminar/ conferences, technology development, industry progress, environmental aspects, law and regulations. etc.
Transportation	GAIKINDO (Gabungan Industri Kendaraan Bermotor Indonesia)	*Indonesian Automotive Industry Association*	https://www.gaikindo.or.id	Domestically, the association facilitates their members in relation to the Government policies in the interest of automotive industry. To foreign countries, the association is acting as a partner for automotive industry associations in various countries, mainly with associations in countries that are considering the automotive industry as the backbone of their economy and with countries whose products enter the Indonesian automotive market.
Food Processing	GAPMMI (Gabungan Pengusaha Makanan dan Minuman Indonesia)	*Indonesian Food and Beverage Business Association*	http://www.gapmmi.or.id	Creating a conducive business climate for food and beverages industries through maintaining healthy competition, fighting for the industry's interests in relation to stakeholders, supplying healthy products for the community, and strengthening their member's skills in food security, processing, health, and nutrition.
Textile	GIATPI (Gabungan Industri Aneka Tenun Plastik Indonesia)	*Indonesian Plastic Weaving Industry Association*	http://giatpi.net/index.html	Supporting the government and national economy to improve the welfare and prosperity of the nation in the manufacturing industry along with 50 producer company members in the plastic weaving production area.
Chemical (Pharmaceutical)	GP Farmasi (Gabungan Perusahaan Farmasi Indonesia)	*Indonesian Pharmaceutical Company Association*	http://www.gpfarmasi.org *web can not be opened	N/A
Industrial (Heavy Equipment)	HINABI (Asosiasi Industri Alat Besar Indonesia)	*Indonesian Heavy Industrial Equipment Association*	http://www.hinabi.org	Developing the national heavy equipment industry by reliable local industries and human resources through facilitating communication and information exchange among members and becoming a strategic partner to the government and other related institutions in setting up conducive business and industrial environment.
Industrial (Mould and Dies)	IMDIA (Asosiasi Industri Mould & Dies Indonesia)	*Indonesian Mould & Dies Industry Association*	http://www.imdia.or.id/english/index.html	Connecting companies and institutions related to mould and dies manufacturing, purchasing, marketing, and maintenance in Indonesia through research study about mould and die technology, developing quality standards, information sharing, human resource development, exchanging/ cooperating with local and international institutions, and other activities related to mould and dies.

Sub-Category	Association		Website	Brief Purpose
Plastic	INAPlas	*The Indonesian Olefin & Plastic Industry Association*	http://www.inaplas.net	Being one of Asia's most efficient and trusted Olefin, Aromatic, and Plastic Association through their main functions, including: enhancing Industry Development towards sustainable industry, partnering with the government on policy development, and bridging communications among members, the government, and stakeholders.
Contruction	Lembaga Pengembangan Jasa Konstruksi Nasional	*National Construction Services Development Agency*	http://lpjk.net	Becoming a leading, international quality, and trustworthy institution which able to provide excellent service in the field of construction services by advancing and developing Indonesian construction services that are reliable, high quality, professional, and able to compete in domestic and international markets through research, education, training, and sustainable services.
Logistics	ALFI (Asosiasi Logistik dan Forwarder Indonesia)	*Indonesian Logistics and Forwarder Association*	http://www.ilfa.or.id	Establishing the association members as the architect for world-class logistics and distribution through supporting the government policy, developing forwarding and logistics services nationally and internationally, developing customs service management companies in the country, and developing members' capability related to the continuity of goods mobility.
IT (Software)	Aspiluki (Asosiasi Piranti Lunak Telematika Indonesia)	*Indonesian Telematics Software Association*	http://www.aspiluki.or.id	Being a communication, consultation, mentoring, and coordinator among software and IT services company members through: Helping the government in supporting and implementing the copyright law Contributing and participating in science activities such as education, training, seminar, workshop, discussions, and others relating to IT and software area Publishing bulletin, journal, or documents for members and others Developing a collaboration with similar organizations, both Indonesian and foreign.
	KADIN (Kamar Dagang Indonesia)	Indonesian Chamber of Commerce	http://www.kadin-indonesia.or.id	Being the first and foremost choice in representing the voice and interests of Indonesia's business world and all its stakeholders, related to the making and implementation of economic policies throughout Indonesia.
	APINDO (Asosiasi Pengusaha Indonesia)	Indonesian Employer Association	http://apindo.or.id/id	Creating good business climate in order to manifest real national development through elevating Indonesian companies' competitiveness, protecting all business workers in Indonesia (especially their members), and to represent Indonesia's business world in various National and International Workforce institution.
	HIPMI (Himpunan Pengusaha Muda Indonesia)	Indonesian Young Entrepreneur Association	https://hipmisurabaya.or.id	Growing a cluster of new midsize entrepreneurs consisting of innovative, professional, focused, mature, and resilient young entrepreneurs.

APPENDIX 6

East Java TVET Providers

Click here https://www.saksara.com/wa-vet-east-java to go to a searchable pivot table.

The pivot table categorises institutions into type (university, institute, college, academy, etc.), category (public or private), study area, level of study, and cost of courses.

Akademi Akuntansi PGRI Jember
Akademi Manajemen Koperasi Tantular
Akademi Sekretari Dan Manajemen Indonesia Surabaya
Akademi Sekretari Widya Mandala Surabaya
ASM Widya Mandala Madiun
Akademi Akupunktur Surabaya
Akademi Analis Farmasi dan Makanan Putra Indonesia Malang
Akademi Analis Farmasi Dan Makanan Sunan Giri
Akademi Analis Kesehatan Delima Husada Gresik
Akademi Analis Kesehatan Malang
Akademi Farmasi Jember
Akademi Farmasi Mitra Sehat Mandiri Sidoarjo
Akademi Farmasi Putera Indonesia Malang
Akademi Farmasi Surabaya
Akademi Farmasi Yannas Husada
Akademi Gizi Karya Husada Kediri
Akademi Gizi Surabaya
Akademi Kebidanan Aifa Husada
Akademi Kebidanan Ar-Rahma
Akademi Kebidanan Berlian Nusantara
Akademi Kebidanan Bina Husada Jember
Akademi Kebidanan Brawijaya Husada
Akademi Kebidanan Delima Persada Gresik
Akademi Kebidanan Dharma Husada Kediri
Akademi Kebidanan Dharma Praja Bondowoso
Akademi Kebidanan Dr Soebandi
Akademi Kebidanan Global Medika
Akademi Kebidanan Graha Husada Sampang
Akademi Kebidanan Griya Husada
Akademi Kebidanan Jember
Akademi Kebidanan Mandiri Gresik
Akademi Kebidanan Medika Wiyata Kediri
Akademi Kebidanan Mitra Sehat Sidoarjo
Akademi Kebidanan Muhammadiyah Madiun
Akademi Kebidanan Pamenang

Akademi Kebidanan Pemenang
Akademi Kebidanan Pemkab Bojonegoro
Akademi Kebidanan PGRI Kediri
Akademi Kebidanan Sakinah
Akademi Kebidanan Sukawati Lawang
Akademi Kebidanan Wahana Sehat Sidoarjo
Akademi Kebidanan Wijaya Kusuma Malang
Akademi Kebidanan Wira Husada Nusantara
Akademi Kebidanan Wiyata Mitra Husada Nganjuk
Akbid Harapan Mulya Ponorogo
Akademi Keperawatan Adi Husada
Akademi Keperawatan Bahrul Ulum Jombang
Akademi Keperawatan Dharma Husada Kediri
Akademi Keperawatan Dian Husada
Akademi Keperawatan Dr. Soedono Madiun Prov. Jawa Timur
Akademi Keperawatan Kerta Cendekia Sidoarjo
Akademi Keperawatan Kosgoro Mojokerto
Akademi Keperawatan Nazhatut Thullab Sampang
Akademi Keperawatan Pamenang
Akademi Keperawatan Pemerintah Kabupaten Ngawi
Akademi Keperawatan Pemkab Gresik
Akademi Keperawatan Pemkab Lamongan
Akademi Keperawatan Pemkab Pamekasan
Akademi Keperawatan Pemkab Ponorogo
Akademi Keperawatan Pemkab Trenggalek
Akademi Keperawatan Pemkot Pasuruan
Akademi Keperawatan William Booth Surabaya
Akademi Kesehatan Arga Husada
Akademi Kesehatan Rajekwesi Bojonegoro
Akademi Kesehatan Rustida
Akademi Refraksi Optisi Surabaya
Akademi Kuliner dan Patiseri Ottimmo Internasional
Akademi Kuliner Monas Pasifik
Akademi Manajemen Informatika Dan Komputer Jombang
Akademi Manajemen Informatika Dan Komputer Taruna

Akademi Pariwisata 17 Agustus 1945 Surabaya
Akademi Pariwisata Dan Perhotelan Ganesha
Akademi Pariwisata Majapahit
Akademi Perkeretaapian Indonesia Madiun
Akademi Teknik dan Keselamatan Penerbangan Surabaya
Akademi Angkatan Laut Surabaya
Akademi Kelautan Banyuwangi
Akademi Komunitas Negeri Pacitan
Akademi Komunitas Negeri Putra Sang Fajar Blitar
Akademi Komunitas Semen Indonesia
Institut Teknologi Sepuluh Nopember
Institut Teknologi Nasional Malang
Institut Sains Dan Teknologi Palapa
Institut Informatika Indonesia Surabaya
Institut Ilmu Kesehatan Bhakti Wiyata Kediri
Institut Bisnis dan Informatika STIKOM Surabaya
Politeknik Perkapalan Negeri Surabaya
Politeknik Elektronika Negeri Surabaya
Politeknik Negeri Jember
Politeknik Negeri Malang
Politeknik Negeri Madura
Politeknik Negeri Banyuwangi
Politeknik Negeri Madiun
Politeknik Kelautan dan Perikanan Sidoarjo
Poltekkes Kemenkes Surabaya
Poltekkes Kemenkes Malang
Politeknik Kesehatan RS Dr Soepraoen Kesdam V
Politeknik Pelayaran Surabaya
Politeknik Penerbangan Surabaya
Politeknik Pembangunan Pertanian Malang
Politeknik Angkatan Darat
Politeknik Angkatan Laut
Politeknik Cahaya Surya
Politeknik NSC Surabaya
Politeknik Ubaya
Politeknik Surabaya
Politeknik Unisma Malang
Politeknik Sakti Surabaya
Politeknik Madiun
Politeknik Kota Malang
Politeknik Kediri
Politeknik 17 Agustus 1945 Surabaya

Politeknik Pertanian dan Peternakan Mapena
Politeknik Masamy Internasional
Sekolah Tinggi Penyuluhan Pertanian Malang
Sekolah Tinggi Teknologi Angkatan Laut
Sekolah Tinggi Ilmu Ekonomi Indonesia Surabaya
Sekolah Tinggi Ilmu Ekonomi Perbanas Surabaya
Sekolah Tinggi Ekonomi dan Bisnis Islam Syaikhona Kholil Sidogiri Pasuruan
Sekolah Tinggi Teknik Surabaya
Sekolah Tinggi Ilmu Ekonomi Artha Bodhi Iswara
Sekolah Tinggi Ilmu Bahasa Dan Sastra Satya Widya
Sekolah Tinggi Ilmu Administrasi Malang
Sekolah Tinggi Ilmu Ekonomi Indonesia Malang
STIKI Malang
Sekolah Tinggi Ilmu Ekonomi Mandala
Sekolah Tinggi Pariwisata Satya Widya
Sekolah Tinggi Ilmu Ekonomi Koperasi Malang
Sekolah Tinggi Ilmu Ekonomi KH Ahmad Dahlan
Sekolah Tinggi Ilmu Ekonomi Nu Trate
Sekolah Tinggi Ilmu Ekonomi Pemuda
Sekolah Tinggi Teknik Malang
STMIK Yadika Bangil
Sekolah Tinggi Ilmu Komputer PGRI Banyuwangi
Sekolah Tinggi Teknologi Stikma Internasional
STMIK PPKIA Pradnya Paramita
Sekolah Tinggi Teknologi Gempol
STMIK Kadiri
STIKES Insan Unggul Surabaya
STIKES Surya Mitra Husada
Sekolah Tinggi Ilmu Kesehatan Majapahit
Sekolah Tinggi Ilmu Kesehatan Artha Bodhi Iswara
STIKES Bina Sehat PPNI Mojokerto
STIKES Insan Cendekia Medika Jombang
STIKES Karya Husada Kediri
STIKES Muhammadiyah Lamongan
Sekolah Tinggi Ilmu Kesehatan Hang Tuah
STIKES Katolik St Vincentius A Paulo Surabaya
STIKES Patria Husada
STIKES Bhakti Mulia
STIKES Banyuwangi
STIKES Satria Bhakti Nganjuk
Sekolah Tinggi Ilmu Kesehatan Husada Jombang

STIKES Dian Husada
STIKES RS Baptis Kediri
Sekolah Tinggi Ilmu Kesehatan Maharani
Sekolah Tinggi Ilmu Kesehatan Pemkab Jombang
STIKES Widyagama Husada Malang
Sekolah Tinggi Ilmu Kesehatan Surabaya
STIKES Bahrul Ulum Jombang
STIKES Nahdlatul Ulama Tuban
Sekolah Tinggi Ilmu Kesehatan Kepanjen
STIKES Hafshawaty Pesantren Zainul Hasan
Sekolah Tinggi Ilmu Kesehatan Kendedes
STIKES Dr. Soebandi Jember
Sekolah Tinggi Ilmu Kesehatan Ngudia Husada Madura
STIKES Ganesha Husada Kediri
STIKES Widya Cipta Husada
STIKES Insan Cendekia Husada Bojonegoro
STIKES Hutama Abdi Husada Tulungagung
Sekolah Tinggi Ilmu Kesehatan William Booth
STIKES Bhakti Husada Mulia
STIKES Yayasan RS. Dr. Soetomo
STIKES Buana Husada Ponorogo
STIKES Bhakti Al-Qodiri
STIKES Karya Putra Bangsa Tulungagung
STIKES Muhammadiyah Bojonegoro
STIKES Delima Persada Gresik
STIKES Rumah Sakit Anwar Medika
Sekolah Tinggi Ilmu Kesehatan Harapan Bangsa
STIKES Panti Waluya Malang
Universitas Airlangga
Universitas Brawijaya
Universitas Jember
Universitas Negeri Malang
Universitas Negeri Surabaya
Universitas Trunojoyo
Universitas 17 Agustus 1945 Surabaya
Universitas Katolik Widya Mandala Surabaya
Universitas Dr Soetomo
Universitas Merdeka Surabaya
Universitas Wijaya Kusuma Surabaya
Universitas Muhammadiyah Surabaya
Universitas 45 Surabaya
Universitas Widya Kartika

Universitas Darma Cendika Surabaya
Universitas Mayjen Sungkono
Universitas Muhammadiyah Malang
Universitas Merdeka Malang
Universitas Katolik Widya Karya
Universitas Widya Gama
Universitas Muhammadiyah Jember
Universitas Islam Jember
Universitas Kadiri
Universitas Tulungagung
Universitas Merdeka Madiun
Universitas Muhammadiyah Ponorogo
Universitas PGRI Adi Buana
Universitas Kanjuruhan
Universitas Katolik Widya Mandala Madiun
Universitas Hang Tuah
Universitas Wiraraja
Universitas Muhammadiyah Sidoarjo
Universitas Tribhuwana Tungga Dewi
Universitas Pesantren Tinggi Darul ulum
Universitas Islam Lamongan
Universitas Islam Madura
Universitas Nusantara PGRI Kediri
Universitas Nahdlatul Ulama Surabaya
Universitas Hasyim Asy'ari Tebuireng Jombang
Universitas Darussalam Gontor
Universitas Maarif Hasyim Latif
Universitas Wahidiyah
Universitas Nurul Jadid
Universitas Ibrahimy
Universitas Muhammadiyah Lamongan