

# US & UAE Study Tour Summary

2-18 October 2017



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## US & UAE Study tour itinerary

To investigate a range of trade/apprentice training systems in the US and to better understand international trends in apprenticeships.

- INAP conference (innovative apprenticeships) (Washington DC)
- US - Community colleges (Nova, Fox, Dawson,)
- US - privately owned trade institutes - (Lincoln Institute, Coyne College)
- US - union trade training schools (UA400 Plumbing and steamfitters)
- US - government / policy and industry
- UAE - International Worldskills Conference
- UAE - Worldskills competition

## Delegates

- Gary Workman - Apprenticeship Employment Network
- Nik Mavrommatis - Apprenticeship Employment Network
- Dean Luciani - Westvic Staffing Solutions
- Rob Birch - G-Force Recruitment Services
- Mark Knox - Apprenticeships Group Australia
- Franklin O'Carroll - Holmesglen Institute
- Russell Thorn - GOTafe
- Frederick Maddern - WPC Group

## Introduction

The tour was designed to provide an insight into a range of trade/apprentice training systems in the US and to better understand current international trends in apprenticeships. Currently many countries are reviewing their apprenticeship systems/ policies to ensure youth employment and future industry needs are catered for. Many Governments see vocational training as a way to ensure economic prosperity into the future.

Items of interest to our delegation included:

- Apprentice / Vocational Training delivery models, facilities and equipment
- Views on the vocational training system and pathways into further education or employment
- Training, curriculum and assessment development
- Engagement with private industry and employers
- Engagement with youth, schools and disadvantaged job seekers
- Government funding models and priorities

## INAP Conference Washington

US Department of Labour Washington DC.

<http://www.inap.uni-bremen.de/>



Approximately 120 delegates from around the world attended the 2-day conference, held at the Department of Labour in Washington DC.

The conference had many presentations from various countries highlighting a specific component of their apprenticeship system.

AEN was there to present on two Australian Apprenticeship initiatives.

- Australian Ambassadors programs
- Multi Industry Pre Apprenticeship program

Conference Delegates included two Australian Apprenticeship Ambassadors Shane Dealy and Jarrod Stone.



# INAP Conference Observations

## South America, Africa and Asia Observations

Limited apprenticeship programs, limited funding and structure from the government

Government looking at apprenticeships for youth employment, workforce development leading to economic development as these countries want to be able to compete globally, and believe the best avenue for this is through technical and vocational training (TVET).

## European Observations (Germany and neighbours)

Apprenticeship system well developed (long history) 200+ years old

Well structured from 1930s - 70s (few government changes) legislated commitment for employers, many with levies/ taxes to fund the system - penalties (higher taxes) for employers not engaged with apprentices

High value work = high paying roles = high quality training and outputs - employer driven

Strong link to “lifelong learning” - pathways post the initial apprenticeship into technical training and university pathways

Strong train the trainer professional development, links to training plans driven by employer, workplace training trainers, school teachers - external assessments that are approved by industry.

Employers and Government have a long-term approach - 20 years+

Most apprenticeship systems are not “competency based” rather they “focus on high quality training, high quality trainers with on and off the job training with external nationally consistent assessments - high completion rates 70%+ - 90%

Germany - strong economy - youth unemployment 5%

Spain - weak economy - youth unemployment 45%

VET seen as a way to improve economy and unemployment - Where the apprenticeship system is working well, it seems to be in high quality areas.

Germany - integration of new technology into curriculum, teacher training and external assessment reviewed every 6-12 months and graded within 12 months - industry led.

External assessments undertaken by training institute, employer and union reps - all must agree on results.



# INAP Conference Observations

## UK Observations

Apprenticeship growth 300% between 2007 - 2011 (600k) mainly in creative/media industries

(arts, design, advertising, theatre/film, music, live events - large increase in apprenticeships)

Also improved completion rates from 50% up to 70%+ over the past 10 years. Assessment mainly centralised/ online / standardised. - improved pathways post apprenticeship into further education and university.

Why/how has the apprenticeship numbers increased in UK.

- Understand industry needs
- Test different delivery models
- Make the apprenticeship “something special”

(seemed to have a little bit of rorting going on - so they are tweaking the system to be more employer and employment focussed)

Government funding up to \$3b pounds/y. (funding generated through employer levies/taxes - all employers over \$3million turn over must pay into the levy) - government regulated - now looking for industry “self-regulation” model.

Employer incentives of up to \$5000 to employ an apprentice under the age of 24

New Minister for training and skills (presented at Worldskills)

- Recent development of “quality standards”
- Competency based standards and assessment- industry led (via trial blazers - industry committees)
- Plan to have 80% on the job with 20% training
- Aiming for 3 million apprenticeship roles (including higher level apprenticeships - university level qualifications.

## Ireland Observations

New apprenticeship model 2013

Employer levy 1% of payroll

Free training for all apprentices

Employers to pay wages for both on the job and off the job

Goal for 40 new industries (increase from 4000 to 9000 apprentices by 2020) new industry approval process must have all stakeholders in agreement. must demonstrate industry need

Employer approval process for engaging an apprentice (government authority)

Min 50% on the job training with blended learning (online, face-to-face)

(no negative impact with employers of traditional trades - apprentice numbers have improved)

Improved pathways to further training post apprenticeship

# US Government and Apprenticeship Policy Observations

## Australian Embassy

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Minister Counsellor (Industry, Science and Education)  
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The United States have a very limited structure/ framework for vocational / trade qualifications. The government is investigating pre-apprenticeships and high school engagement to improve pathways for high school leavers into employment (entry level jobs)

The goal is to have 4million apprentices by 2020 across the US (this will equate to 2% of the workforce - similar to current levels within Australia - currently Australia is at 450,000 apprentices/trainees)

Curriculum development and maintenance is up to each state/ training provider (only 1 state run apprenticeship system - Wisconsin) Community Colleges have an industry led development (usually 6-12 months process for updating curriculum).

P-Tech system (co-contribution between secondary schools and large employers - funded by employers as they need the entry level workforce)

Union led schools (employer levy based funding system) free training to apprentices (true 4 year training system 80% on the job- 20% on the job with industry led external testing. 4 days work - one day trade school)

Heavily focussed on hands on skills and design

Community colleges - driven to provide training - no real link to employment needs - have low completion rates under 40% across the state (many students leave/don't complete when they find employment or gain entry into university/college, others leave for personal reasons etc...). Community colleges are government funded with student co-contribution. Most courses are 12 months maximum duration (funding is usually via student loans - with the government determining which colleges can have an approved loan scheme).

In the US a very high proportion of youth go on to university/ college (however university and community college - less than 50% completion rates)

US government have recently established a formal link to the Swiss government on apprenticeship systems/framework.

The Australian Embassy staff in the US believe the Australian VET system has significant advantages over the US system which they intend to promote.

## NOVA Community College - North Virginia



Steve Partridge  
Vice President of Workforce Development  
Brault Building, Room 252, Suite 253  
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Large college specialising in IT development / coding/ security and Hospitality /Retail

70,000 students -

Mainly delivering 12 month programs that lead to further study or employment

Currently Piloting AMAZON “apprenticeships” 12 month IT programs to provide additional workforce for Amazon expansion needs - high level coding / IT skills - mainly identifying existing workers - with potential to then backfill entry level staff with other training.

Virginia is a “wealthy” region - high wages, high cost of living - however finding it difficult to attract students from other regions - very low unemployment - being close to Washington DC. “World” centre for IT / cyber security

Qualifications and curriculum at a State level.

### Issues

Most school students once they complete the “certified industry certificate” for specific software would not finish course as they had gained employment.

Most courses FFS however eligible student subsidies applied for youth from disadvantaged backgrounds.

Students being “workplace ready” not understanding workplace / employer expectations

### Strengths

- Student intake matches industry needs, strong industry engagement with students and development of curriculum
- NOVA undertake a lot of analysis on local workforce needs / labour statistics / local economy
- 12 month courses with high employment outcomes
- Very professional - setting high expectations for students and employers / high quality.





### Jobs for the Future - Apprenticeship Intermediary Contract

12-month contract to place 450 youth into apprenticeships

Needed to have employers commit to the program before having candidates.

Focus on candidates from equity groups (unemployed, African American, disabled) - employers must agree to develop an inclusive” workforce plan.

\$1-2000 employer incentives + free training (government funded)

The JFF would discuss workforce needs with employers and design an “apprenticeship / new candidates and training solution. Program would be partially funded by government program.

Program results - too early to tell. Seemed to have issues with employer incentives being too early - unsure of drop-out rate.

Overall seems a positive program JFF have received a new contract to expand the program in 2018.



## Lincoln Institute - Mahwah New Jersey/New York

Scott M. Shaw  
CEO and President  
Lincoln Educational Services  
200 Executive Drive, Suite 340  
West Orange, NJ 07052  
973.736.9340 Ext. 49980



**LINCOLN TECH**  
*America's Technical Institute*

Privately run (for profit) trade training centre  
16 campuses - covering most trades/ services sectors  
(Mahwah campus - CNC machine, automotive servicing, HVAC/Plumbing, Electrical and IT)  
(Government approved for student loan scheme - average cost for a 12-month course \$15-20k)  
65% completions rates (higher for some specific areas) 90% employment outcomes for students that graduate  
Very strong connection with industry/employers  
Company sponsored training room - industry speakers and trainers.  
Strong focus on having students ready for work  
Examples of industry partners (Audi, NASA, BMW, Subaru)  
Students attend school 4 days per week (f/t) well presented in uniforms, can undertake specific commercial accreditation on top of course - at the discretion of the institute (best performing students etc.)

### Strengths

- Student intake matches industry needs, strong industry engagement with students and development of curriculum
- 12 month courses with high employment outcomes
- Very professional - setting high expectations for students and employers / high quality.



## Fox Valley Institute - Wisconsin

Christopher J. Matheny, PhD  
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Fox Valley Technical College 1825 N.  
Bluemound Drive Appleton, WI 54914



Wisconsin is the only State Government structured apprenticeship system in the USA - it was established in 1911.

Fox Valley technical college has approx. 50,000 students. (1500 apprentices) (22000 vendor training/ client specific training)

Fox Valley covers all trade/ occupations (looking to expand into IT and Health)

Supports a strong diverse local manufacturing economy.

Only system in the USA where students must be employed in a trade prior to starting training/ apprenticeship

5 year apprentice training system - approx. 10% school based - 90% on the job each year.

Employers pay apprentices for the time they are at training and usually cover most of the training costs (as in Australia)

### Similar issues to Australia.

Attracting youth to the trades.

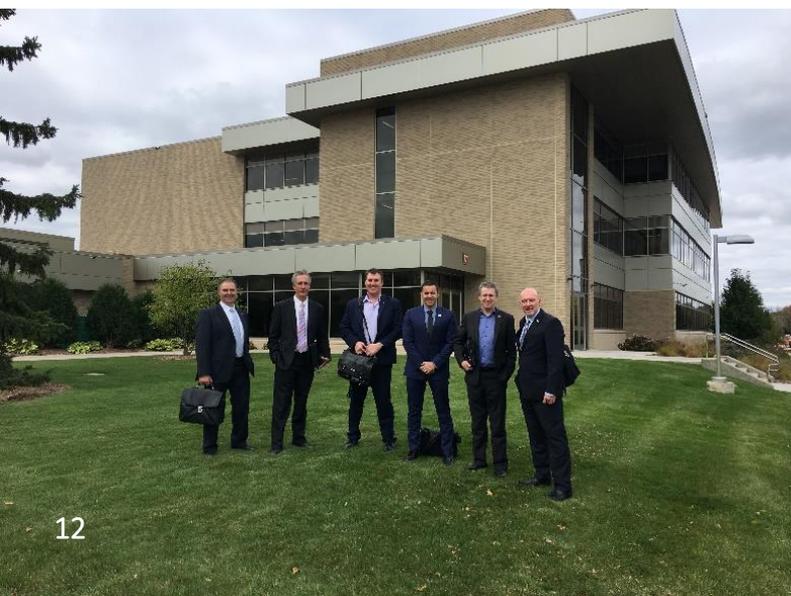
Connecting with / Working with secondary schools (High schools) to better promote trade/career pathways.

Employer concerns: Aging population / difficult to find staff/ workforce needs for the future

### Strengths

- Student intake matches industry needs, strong industry engagement with students and development of curriculum
- 12 month courses with high employment outcomes
- Very professional - setting high expectations for students and employers / high quality.

Fox Valley - very professionally run, students wear uniforms, college has high expectations of student work ethic. College has strong links to industry, industry sponsored equipment, assistance with curriculum design and assessment. Strong employment outcomes for graduates.



# UA 400 Plumbing and Steamfitters Training Centre - Wisconsin

Randy R. Lorge

Instructor of Plumbing Apprenticeship  
Fox Valley Technical College  
Appleton, WI 54912-2277  
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- Union owned - funding by employer levy system
- Fully Union member funded - levy on wages on all union construction sites - approx. 2% of wages
- (Plumbing, HVAC, refrigeration, welding/steamfitters/pipe fitters, medical gases, gas fitting)
- Traditional apprenticeships - 4 years
- Full time work with part time/ evening classes 2-3 nights per week plus one full day
- All training free to union members
- Strong focus on hand skills and plumbing/ HVAC design principles.
- UA develop all their own curriculum (shared amongst 500+ centres across USA and Canada)





## Dawson Institute- King Kennedy Community College - Chicago

Lucretzia M. Jamison  
Interim Dean  
Dawson Technical Institute  
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CITY COLLEGES of CHICAGO  
**Kennedy-King**  
Dawson Technical Institute  
Education that Works

Trade based community college - low socio economic region of Chicago

Carpentry, Bricklaying, Electrician, Electrical lines worker, gas, plumbing, welding

Working with high youth unemployment, ex-offenders, mature aged workers seeking employment

Approx. 500 students per year. (12-month programs)

BC - Basic course (6 months) \$1700-\$2500 completion rates 80%

AC - Advanced course (12 months) \$5500+ completion rates 50%

D - Degree course (2 years) \$5500+ completion rates 50%

Funded through student loan system (most students are eligible for heavily subsidised loans)

**High employment outcomes - 75% that complete gain employment**

Pre entry tests to determine LLN levels



30% high school leavers, 70% mature aged (ave age 29yo)

Additional support includes (childcare centre on campus and physical exercise / gym classes are compulsory for all students - they must pass fitness tests) weekly e-newsletter to every student promoting job opportunities, industry specific articles etc...

Large employment programs (feeder programs) for City gas utility and electrical line workers, also for union apprenticeship programs. (Welding, plumbing and electrical)

### Strengths

- Student intake matches industry needs, strong industry engagement with students and development of curriculum
- 12 month courses with high employment outcomes
- Even though they are in a low socio economic area, the college is very professional - setting high expectations for students and employers with strong employment outcomes.



## Coyne Community College - Chicago

Russell Freeman: President  
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P:(773) 577-8050  
E:[rtf@coynecollege.edu](mailto:rtf@coynecollege.edu)

Family Owned (private) training organisation  
(established in 1898)  
4000 students annually

Electrical/ HVAC/ electronics, Nursing, medical pharmacy,  
Allied Health billing / admin / coding, IT, Business  
administration  
College funded through student loans  
(government subsidised for many students)  
Diploma courses (12 months) \$16000+  
Associate Diploma courses (12-24 months) \$30,000

**70% of graduates obtain employment**  
**(this is a government requirement in Chicago for private colleges to keep registration)**  
**Completion rates approx. 70%**

Last 6 weeks of all courses have a work placement component. (students are not paid) employers see the program as a form of recruitment.

Curriculum development college responsibility - college seeks employer/industry support and input or purchases training resources.

(as Coyne is a privately owned college they are not allowed to promote/work within high schools) Advertising for students is online/ TV / social media etc).

Further information college navigator (college ranking site) <https://nces.ed.gov/collegenavigator/>





### Strengths

- Student intake matches industry needs, strong industry engagement with students and development of curriculum
- 12 month courses with high employment outcomes
- Very professional - setting high expectations for students and employers / high quality.



## WorldSkills Conference

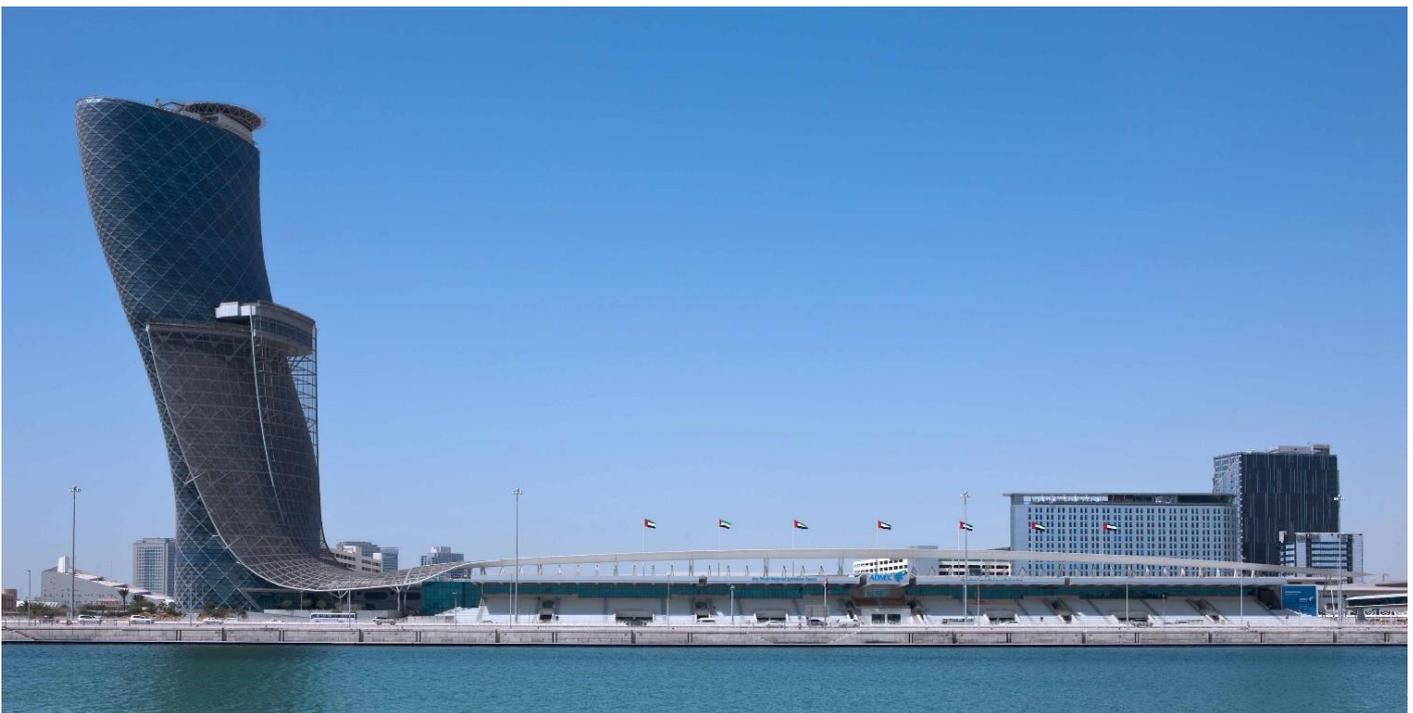


Held as part of WorldSkills Abu Dhabi 2017 - the 44th edition of the world's largest and most prestigious skills competition, hosted by the Middle East and North Africa region for the first time - the high-level conference brought together government representatives, thought leaders, and young people from around the world to tackle the biggest issues surrounding technical and vocational education and training (TVET) in a rapidly-changing world.

Over two days of discussion, debate, insight, and exploration at the Abu Dhabi National Exhibition Centre (ADNEC), the Conference sought to address how vocational skills adapt to the dramatic impact of the Fourth Industrial Revolution on the way people live, learn, and work, and how the global skills landscape can cultivate the competencies that employers will need into the future

Full conference program:

[www.worldskills.org/what/international-cooperation/conference-programme/2017/](http://www.worldskills.org/what/international-cooperation/conference-programme/2017/)



WorldSkills and Conference - Abu Dhabi National Exhibition Centre (ADNEC)

# NEW & DEMAND

## Transforming Economy

NOT Job Displacement BUT UPGRADE

47% of TOTAL U.S. employment is in the "HIGH Risk" category

How FAST will the TRANSITION HAPPEN?

CURRENT SITUATION: GLOBAL Skill GAP, Automation, DATA

LINES btw PHYSICAL & DIGITAL are BLURRY

MIND SHIFT

Dr. Andrew VAN SCHACK: THE Past, Present & THE Future of Work

Speed + MEMORY = BRAIN POW

Digital ENERGY & ENVIRONMENT

People: learners & EDUCATORS  
STRUCTURE: Teaching & Learning FRAMEWORK  
DEMAND: GOVERNMENT & INDUSTRY

DIGITALISATION - EXTREME CHALLENGE

DISTRIBUTIVE TECHNOLOGIES

SHOBHA MISHRA GHOSH: SKILLS for New & TRANSFORMING ECONOMY

ADAPT EDUCATION

CHANGES IN OCCUPATIONAL CONTENTS & REQUIREMENTS

DEVELOPMENT OF THE MARKET

MICHAEL TIEMANN

Dr. Carl FREY: The future of WORK

Human computers  
Electronic computers  
Machine Learning

WHAT COMPUTERS Do NOT DO

- \* CREATIVITY
- \* SOCIAL INTELLIGENCE
- \* PERCEPTION AND MANIPULATION

Peter THIELE

DIGITALISATION

JobSTARTER + 4.0

TRANSFER

SOCIAL PARTNERS, CONFERENCE PUBLICATION

SKILLS for DIGITAL WORKPLACE

UPDATING

Digital Media

ASCOT+

Digitalisation IS A CHANCE for 75% of ppl



### Industry 4.0

## THE FOURTH INDUSTRIAL REVOLUTION

### DIGITAL

Virtual & Augmented Reality    Robotics    Blockchain  
Sensors    Internet of Things    Photonics  
Smart Grid    Quantum Computing    Data Analytics  
Cybersecurity    Drones    Artificial Intelligence  
Mobile & Wireless    High Performance Computing

### ENERGY & ENVIRONMENT

Wind Turbines    Bio-Fuel    Advanced Energy Storage  
Carbon Capture & Storage    Marine & Tidal Power  
Electric Vehicles    Fuel Cells    Precision Agriculture  
Autonomous & Connected Vehicles    Fusion Reactors  
Reusable Rockets    Asteroid Mining    Micro Satellites

### BIOTECHNOLOGY

Bioinformatics    Personalized Medicine    Biocatalysis  
Regenerative Medicine    Automated Drug Discovery  
Synthetic Biology    Bio-Imaging    Lab on a Chip  
Neuro-Technologies    Health Monitoring Technology  
Robotic Surgery    Genomics    Biochips & Sensors

### ADVANCED MATERIALS

Additive Manufacturing    Graphene    Nanomaterials  
Nano-Robots    Claytronics    Flexible Electronics  
Carbon Nanotubes    Super Alloys    Functional Materials  
High-Temperature Superconductivity    Metamaterials  
Conductive Polymers    Graphene    Quantum Dots

**VANDERBILT**  
PEABODY COLLEGE  
College of Education & Human Development



## WorldSkills Competition

Young people from [59 member countries and regions](#) came to Abu Dhabi to compete in [51 skill competitions](#).

WorldSkills aims to:

- Expose youth to a variety of skilled careers and equip them with the tools and resources they need to build a future.
- Communicate the benefits of holding a WorldSkills event to Members.
- Organize skill competitions and events for young people on all levels all over the world.
- Be a place and a platform for celebrating world-class excellence in skills by showcasing the next generation of skills talent.
- Explain the motivational and educational benefit of competitions by showing how they build Competitors' character, confidence, commitment, and self-esteem.
- Offer companies, industries, and trades a chance to meet and recruit skilled people who have demonstrated that they are at the "top of their game."

### Opening Ceremony

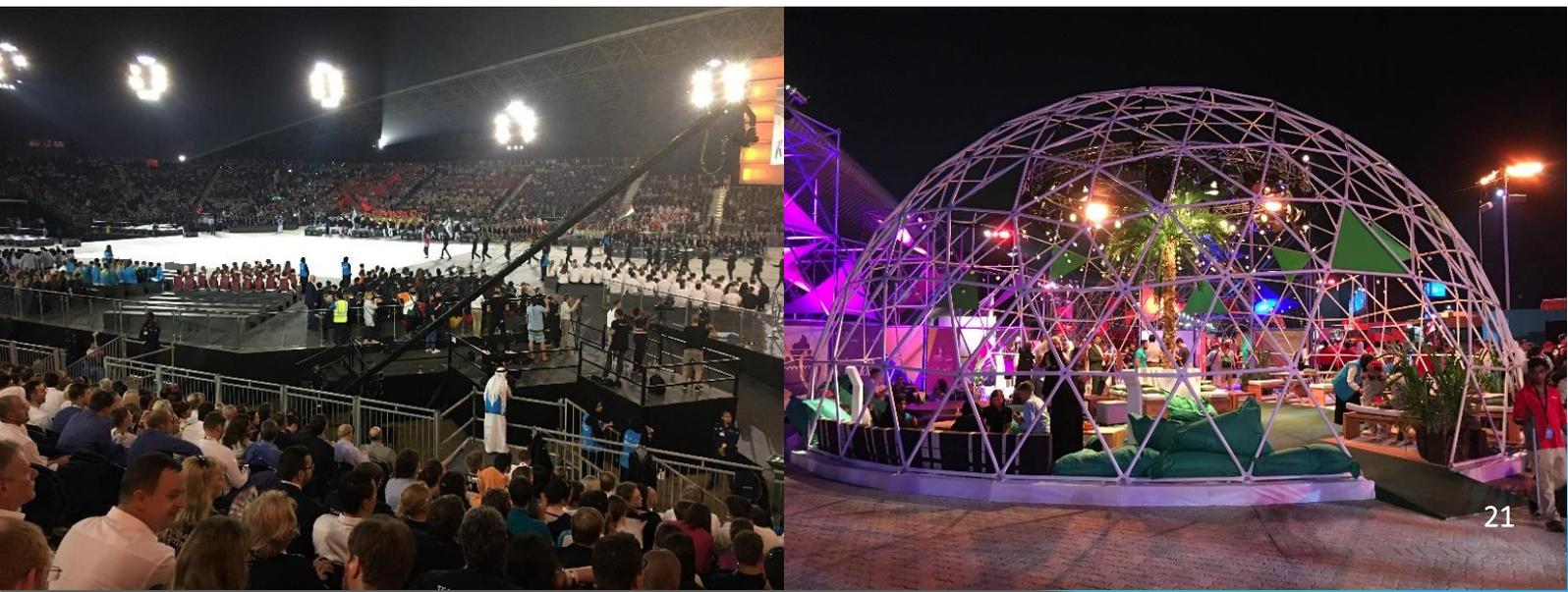
15,000 spectators , 1300 competitors from 59 countries

### Skills competition over 4 days

Competitors have to complete a range of high level

Activities within set timeframes.

The activities are designed so that the end product can be assessed against others for accuracy





# WorldSkills Competition

Australia Finished 10 Overall!

Australia finished in the top 10 overall and secured 4 medals (4 - top 3 finishes)



Gold medal to Gaby Ware - Hairdressing



Silver medal to Ryan Grieger - Carpentry



Silver medal to Bradley Ingham - Industrial Mechanic



Bronze medal to Trystan Summut - Bricklaying



## Study Tour Summary - Key Observations

### Apprenticeship Observations: Many countries have similar issues to Australia

There were certainly a number of common themes during our tour, where they had very similar issues to what we face in Australia including;

- Disconnection / poor communication between employers and training providers (varying levels depending on country and location)
- Social / behaviour of youth / employer expectations (very large issue in US)
- How do countries use the apprenticeship system to improve youth employment and workforce needs
- Term “apprenticeship” seems to be used to cover all industries/trades that have a workplace/ training - entry level positions.
- Perception of apprenticeships in US - University/college preference for youth/ families - different to European perceptions
- Many countries the “apprenticeship” vary in duration from 12 months - 7 years
- Attracting youth to the trades.
- Connecting with / Working with secondary schools (High schools) to better promote trade/career pathways.
- Employer concerns Aging population / difficult to find staff/ workforce needs for the future

### Australian Benefits / Strengths

The study tour group agreed that the Australian VET system was in a strong position when compared to many other countries. The Australian VET system has a very solid foundation with most of the key components that make up a sustainable VET system already in place.

- Strong policies with a national qualifications framework
- Strong funding (compared to US) similar funding based on European experiences (however the funding is generated from industry taxes/ levies)
- Australia is the only country with a GTO model
- UK & US have “intermediaries” model to assist the employer and youth into apprenticeships
- Incentives for employers in Australia (however costs for training with employer)
- European countries - levies/taxes on employers - this funds the system
- Inclusion / disabilities/ women/ CALD (Australia have strong policies when compared to other countries)
- Men/ women pay/ conditions more equitable (up to 31% difference in Asia/ Africa - less for women)
- Australia well positioned / well ahead of all countries except Germany/ and surrounding countries)
- Government driven system in Australia? (not sure if this is a strength - however it is good to see the government having VET as a priority).

### Australian areas for improvements

There are a few areas that Australia could improve to make the VET system stronger.

- European apprenticeships - main driver of the VET system are employers/ industry
- European pathways from apprenticeships into HEd stronger – greater flexibility to transition into other areas
- European “apprenticeships” work well when there is - high quality / high cost products/ industries so higher prestige within the community
- Australia strong in traditional trade skills - weak in emerging / technology skills (this was evident at the worldskills competition where Australia did very well in the traditional trades, however we did not compete in the advanced technology industries).

## Study Tour Summary - Key Observations

### Key Observations: Things Australia could investigate further

There were a few key items that we believe the Australian Government should explore further including;

- The training providers seem to have stronger links with employers and employment outcomes. Many US states require training providers to achieve a **minimum 70% employment** outcomes to retain their accreditation.
- Student funding models also seemed to require greater “buy-in” from students with many systems utilising student loan programs instead of “free government placements” - this in-turn assisted with completion rates- as many colleges in the US have high (better than 70%) completion rates for trade/ technical programs.
- Employers / industry also seemed better connected to the VET system in Europe as they paid into a Levy/tax system.
- Training providers seemed to have stronger links with employers/industry on curriculum design and assessment, changes to curriculum occurred at a local level to meet local needs- and could be developed within 12 months in many cases. (the disadvantage to this is not having “national/state consistency” but this didn’t seem to worry the employers or the colleges).
- Scale – Overall student participation numbers was high at each training organisation. This scale seemed to create improved flexibility for the training organisation, more classes, more options for students and employers

## Appendix A

### Website References / further information

<http://www.inap.uni-bremen.de/>

<https://www.worldskills.org.au/>

<https://www.worldskills.org/>

<https://www.worldskills.org/what/international-cooperation/conference-programme/2017/>

### USA colleges (visited as part of study tour)

<https://www.nvcc.edu/> (NOVA - North Virginia)

<https://www.lincolntech.edu/campus/union-nj> (Lincoln Tech - New Jersey)

<https://www.fvvc.edu/> (Fox Valley - Wisconsin)

<https://www.coynecollege.edu> (Coyne College - Chicago)

<http://www.ccc.edu/colleges/kennedy/departments/Pages/Dawson-Technical-Institute.aspx> (Chicago)

<http://ua400.org/> (Plumbers & Steamfitters Local 400 union trade school - Wisconsin)

USA college navigator (college ranking site) <https://nces.ed.gov/collegenavigator/>