



ICT10 Integrated Telecommunications Training Package V1

Amended CASE FOR ENDORSEMENT

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**Submitted by Innovation and Business Skills Australia
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Overview

Innovation and Business Skills Australia (IBSA) works in partnership with industry and key stakeholders in the vocational education and training (VET) sector to develop the business and innovation skills that are critical to the success of Australian industries, enterprises and their workforce.

IBSA covers the industry sectors of:

- business services
- cultural industries
- education
- financial services
- information and communications technologies, and
- printing and graphic arts.

This submission puts forward the Case for the Endorsement of the ICT10 Integrated Telecommunications Training Package which is a comprehensive revision of the ICT02 Telecommunication Training Package

Project history

There have been two earlier versions of the Telecommunications Training Package. The initial ICT97 Training Package was one of the first Training Packages developed and while comprehensive in its coverage of telecommunications technologies it did not have the benefit of hindsight or the experience of others to guide its design or implementation.

The ICT02 Training Package development was designed to both align the ICT97 training package with the agreed Training Package structures and templates, as well as, to review and update the Training Package to cover any newly developed technologies.

During 2008 the ICT02 Telecommunications Training Package was particularly highlighted during a number of State and Territory Authority (STA) and State and Territory ITABs Continuous Improvement Plan discussions as requiring urgent review. It was identified as being out of date and poorly configured and therefore less able to respond to and support critical national government and industry initiatives.

The Federal Government is heavily committed to initiatives, such as the high-speed National Broadband Network (NBN) roll out, the Digital Economy, Digital Education Revolution (DER) computers in schools program, the Analog to Digital TV switchover and the implementation of the 'Green ICT' sustainability strategy, all of which will impact on the Telecommunications industry and its infrastructures. It was considered critical that the ICT02 Telecommunications Training Package be updated, enhanced and refreshed with the technology changes and terminologies that have been emerging since the National Training Quality Council (NTQC) endorsed the ICT02 Ver3.0 TP in November 2008.

Methodology

The review of the ICT02 Ver3.0 Telecommunications Training Package was undertaken to ensure it reflects the current industry requirements and to ensure that it remains technically relevant for future innovations and emerging skill needs.

Key features of the methodology for the completion of the review were:

- establishment of a National Project Reference Group (NPRG) (Appendix 2: NPRG members)
- review of research and industry information through consultation workshops conducted in each state and territory, industry consultation meetings and wiki forums
- establishment of a communications strategy (Appendix 3: Communications strategy)
- draft units of competency and qualifications were developed and loaded onto the Review and Feedback Register of the IBSA website
- feedback was obtained on draft units of competency and qualifications from a wide range of stakeholders (Appendix 4: Stakeholders consulted)
- draft units of competency and qualifications were validated at national consultation meetings and stakeholder feedback incorporated into final drafts where appropriate
- meeting of NPRG in 17 December 2009 agreed on final documentation to be submitted for endorsement.

Conclusion

ICT10 Integrated Telecommunications Training Package sees a number of revisions to the ICT02 Telecommunications Training Package. The industry coverage has expanded to cover the convergence of technologies across a number of industry areas including telecommunications, sustainable networks, internet protocol (IP) networks, optical and radio networks, mesh networks, cloud networks, information technology and digital media.

The ICT10 TP review project identified a number of new and emerging technological trends in the industry. The qualifications and units of competency were reviewed and developed to reflect these changes with a number of focus areas specifically identified including:

- Cabling
- Broadband/Wireless
- Digital Reception Technology
- Optical Networks
- Network Planning
- Radio Frequency Networks
- Rigging Installations
- Telecommunications Networks Engineering.

There was strong support for the final qualifications and units of competency. As a result, new business models and advances in technology are well covered in the ICT10 Integrated Telecommunications Training Package.

Section 1: Responsiveness and recognition quality principles

Reflection of contemporary work organisation and job profiles

As with many other sectors, technological convergence is affecting the way people work in the telecommunications industries. The convergence of the voice, data and video networks are having a major effect on the telecommunication industry. In the past, telecommunications network and information technology infrastructures were built on separate technologies and methodologies with little commonality. The historic telecommunications industry structure encouraged the development of vertical business structures to support fixed voice, mobile voice, data, and media services using very different sets of technologies. This resulted in a large number of disparate and unique implementations.

The dramatic rise of technology integration and convergence of internet and the use of IP based networks in telecommunications industry have provided a natural infrastructure for the introduction of new services utilising the move from analog technologies to digital IP based networks in the areas of voice, video, television and other media services.

Significant shifts to these technologies including a greater application of:

- networks (using wireless for data and voice) and overlay of Broadband
- IP based communications, broadcasting, switching and transmission
- enhancements to content and network management capabilities
- unified communications and collaborations
- asymmetrical digital subscriber line (ADSL) and very high data rate digital subscriber line (VDSL)
- IP access networks for voice over internet protocol (VoIP) and internet protocol TV (IPTV)
- multiprotocol label switching (MPLS) and transmission networks overlaying existing IP networks for NGN technology
- wireless systems (mobiles, wireless fidelity (WiFi), worldwide interoperability for microwave access (WiMAX), Bluetooth and satellite)
- mesh and cloud networks
- smart grids for sustainable home and SME networks
- optical systems and networks (including fibre to the node (FTTN), fibre to the home (FTTH) and fibre to the x (FTTx))
- diverse physical infrastructure with specialist equipment knowledge and maintenance
- green technology requirements.

The current telecommunication industries are now incorporating these new technologies into their work organisation and job profiling.

Consultation on the above included discussions with and input from major players in the industry, with the result that the revision of the current qualifications, skill sets and units of competency have included, where relevant, many of the areas mentioned above. Furthermore, care was taken to develop the units in a way that allows contextualisation as industry practice adapts to new trends and technologies.

Driven by industry's needs

The structure of the telecommunications industry has changed greatly since the implementation of the ICT97 Telecommunications Training Package. The concentration of telecommunications began dissolving with the original break-up of Telecom (Australia) and the gradual admission of other telecommunication companies such as Optus, PowerTel, SP telecommunications, Vodafone and 3Network into the market place.

The technology platform base for companies is also continually changing as telecommunication services are being more closely integrated into internet services especially in the area of data and voice. Technological change is altering the entire telecommunications landscape in both business and residential markets. Major growth has occurred in wireless and broadband services in recent years, creating a very competitive environment. There is also an increasingly obvious move from wired connections to wireless connections.

A key important issue for the industry is the need to organise itself to deal with old technology and the transition to hi-speed optical and wireless broadband, VoIP, IPTV, mesh and cloud networks and wireless technologies. There is a corresponding need to ensure that training in the industry is designed to meet these needs. The ICT10 TP has been designed through industry feedback to meet those needs.

Responsiveness to government broad policy initiatives

The review of this Training Package has been driven by a number of government policy initiatives, including the National Broadband Network (NBN), Digital Education Revolution (DER) and sustainability practices to reduce carbon emission and green house effect on the environment. The new NBN will connect all Australian homes, schools and workplaces with broadband services with speeds up to 100 Megabits per second (90%) or with next generation wireless and satellite technologies that will deliver broadband speeds of 12 Megabits per second. The DER project will provide affordable, high-speed fibre broadband to all schools in Australia ensuring that all Australian school students have access to similar bandwidth capabilities at home and at school, anywhere and at any time.

The qualifications, skill sets and units of competency within this Training Package have been developed with these initiatives in mind. Industry, including many of the key telecommunication companies involved in these government initiatives, has been extensively consulted through two consultation workshops in all states and territories, industry workshops and electronic collaboration. Their advice, suggestions and key recommendations have been incorporated where possible.

- **Telecommunications Network Engineering** – A stream comprising of a Certificate IV, a Diploma, an Advanced Diploma, a Vocational Graduate Certificate and a Vocational Graduate Diploma provide the ICT industry with the higher technical skills for the design and deployment of integrated and convergence technology infrastructures for the NBN initiative and IP based applications that will meet current and future ICT requirements. These qualifications promote the use and application of sustainability in the design and implementation of ICT networks. This will assist with integrated technologies that crucially underpin the Australian Government initiatives in sustainability and Digital Economy drive.

- **Optical Networks** – A Certificate IV, Diploma and an Advanced Diploma of Optical Networks provide the ICT industry with the higher technical skills for the planning and deployment of optical infrastructures for the NBN initiative and optical transport transmission. This will assist with the high-speed and high-capacity optical internet provisioning that crucially underpins the Digital Economy drive of the Australian Government.
- **Radio Networks** – A Certificate IV and a Diploma of Radio Frequency Networks provide the ICT industry with the higher technical skills for the design and deployment of RF infrastructures for the NBN initiative and wireless transport transmission that crucially underpins the Digital Economy drive of the Australian Government. This will assist with the provisioning of high-speed and high-capacity wireless internet capability to complement the optical networks in inaccessible regions.
- **Planning qualifications** – A Certificate IV and a Diploma in network planning and design provide the ICT industry with the demand forecasting and planning of deployment of emerging technologies infrastructures for the Core and Access networks by service providers as part of the NBN initiative.
- **Sustainability in ICT Systems** – Sustainability is embedded in all qualifications with skills ranging from work practices to design and implementation and to developing of policies and procedures. Additionally a short course (skill set) providing the ICT industry with the skills and capability to meet the Australian Government initiative on **GREEN ICT** covers the feasibility and practical skills on Power Management Hardware, Power Management Software, Server Virtualisation implementation and the use of Renewable Energy systems.

Recognition of convergence and connectivity of skills

As mentioned above industry coverage has expanded to cover the convergence of technologies across a number of industry areas, including telecommunications, information technology and digital media. The ICT10 Integrated Telecommunications Training Package has been designed to ensure that this convergence is encapsulated both within and across the different qualifications.

This is especially evident within the telecommunications and information technology networking areas and the telecommunications and rigging areas where the traditional roles are now 'blurred'. New units of competency were written to accommodate these trends.

Over one hundred new units have been developed together with industry to provide the skills required to meet the convergence of the ICT industry in telecommunications. Many of these units will be able to be imported into the qualifications of the ICA05 Information and Communications Technology Training Package for IT Networks.

Support for movement of skills within and across organisations and sectors

Packaging rules for qualifications are clear and consistent and allow a logical progression of skills development between AQF levels. The Training Package allows for multiple entry points and progression pathways enabling a formal learning progression from AQF II through to Advanced Diploma and Vocational Graduate Diploma level.

There are two identified apprentice pathways or direct entry into:

- ICT30110 Certificate III in Broadband and Wireless Networks Technology
- ICT40610 Certificate IV in Telecommunication Network Engineering Technology

There is also a workplace learning recognition pathway into the ICT40510 Certificate IV in Telecommunication Network Planning through to the ICT50510 Diploma of Telecommunications Planning and Design.

There is also a school-based entry qualification for VET in schools that provides an innovative approach to a pathway model for use by schools as a recommended school model pathway. The ICT20110 Certificate II in Telecommunications Technology that provides Years 11 and 12 students with skills in Telecommunications Networks, Digital Reception Technology and IP networks in home and SME networks. It contains a core with a choice of three streams; the Cabling Technician stream provides an ACMA CPR restricted registration, the Digital Reception stream provides for work on digital reception equipment and the Networking stream provides for work with IP home and small business networks. Due to the specialisation of the streams, the substitution of elective units is not permitted.

The following Training Packages are the ones from which units have been imported to supplement those developed specifically for the telecommunications industry:

- BSB07 Business Services Training Package
- CPP07 Property Services Training Package
- FNS04 Financial Services Training Package
- HLT07 Health Training Package
- ICA05 Information and Communications Technology Training Package.

The importation of units from those Training Packages provides clear support to the telecommunications qualifications in the area of sustainability, project management and IT convergence networks.

Promotion of national and international portability

As indicated above the development of ICT10 Integrated Training Package has been based heavily on industry consultation and feedback. Many of the telecommunication and information technology companies involved in the industry are multinational and global in their operations and their feedback on required industry standards, work practices and other industry requirements have been fully incorporated into the qualifications and competencies.

Reflection of licensing and regulatory requirements

The telecommunications regulator is the Australian Communications and Media Authority (ACMA). The legislation covering ACMA activities involves a broad range of national activities from carrier licensing to use of radio spectrum and the most relevant issue for ICT10 Integrated Telecommunications Training Package qualifications is the ACMA Cabling Provider Rules Registration.

In addition, guidance is provided in the two Rigger Installer qualifications and many units within the qualifications for people working at such heights requiring special equipment. For people undertaking aerial work they may need to use and operate an elevated work platform (EWP), guidance is provided in many qualifications and associated units.

Much of the work is carried out in green sites and construction sites and will therefore require a White Card.

These pertain to the:

- National Standard for Licensing Persons Performing High Risk Work (which applies to persons performing dogging and rigging work)
- National Code of Practice for Induction for Construction Work. If so, people entering the construction site are required to complete the general induction training program specified by the National Code of Practice for Induction Training for Construction Work (Australian Safety Compensation Council, May 2007).

The qualifications and competencies within ICT10 TP have taken into account these requirements and full guidance is provided in Volume 1 of the ICT10 Integrated Telecommunications Training Package.

The Australian Communications and Media Authority (ACMA) were consulted in the revision of the ICT10 Integrated Telecommunications Training Package, as well as, being involved in the development of three specific units for ACMA and telecommunications industry field officers.

State/Territory Training Authority Support for ICT10

The State and Territory Training Authorities have provided feedback on constructive changes and amendments to the ICT10 Integrated Telecommunications Training Package.

A detailed submission from Queensland had all points raised addressed to the satisfaction of the State Training Authority. Victoria also submitted a detailed response that has now had all points raised addressed to the satisfaction of the State Training Authority and Industry.

All State and Territory Training Authorities fully support the endorsement of the ICT10 Integrated Telecommunications Training Package.

Section 2: Flexibility and functionality quality principles

The process undertaken to meet quality assurance and equity requirements involved independent reviews and consultation with DEEWR-approved QA panel members:

- Cherrie Hawke - Torque Holdings Pty Ltd: holistic training Package QA report
- Jana Scomazzon - LTG: equity review
- Gamper Consulting Services: editorial report

Findings of Editorial Report

The Editorial Report, Appendix 5, found that the draft endorsed components meet the editorial requirements of the Training Package Development Handbook, including policy and guidelines: *Editor Trish Gamper, Gamper Consulting Services, 21 December 2009*

Findings of the Equity Review

The Equity Review, Appendix 5, provides evidence that the draft endorsed components meet the requirements of flexibility and functionality quality principles. There were no negative findings in the report, which states that *'the draft endorsed components meet the agreed requirements for access and equity'*, *Jana Scomazzon, LTG, 31 December 2009*.

Findings of the Quality Report

The Quality Report, Appendix 5, found that the draft endorsed components meet the Quality Principles for requirements of the Training Package Development Handbook, including policy and guidelines.

Letters of support

Letters of support are included as Appendix 6.

Impact statement

Overview

ICT10 Integrated Telecommunications Training Package is a revision of the ICT02 Telecommunication Training Package. The industry coverage has expanded to cover the

convergence of technologies across a number of industry areas including telecommunications, information technology and digital media. The ICT10 review project identified a number of new and emerging technological trends in the industry and the qualifications and units of competency were reviewed and developed to reflect these changes.

There are twenty six qualifications in the Training Package (24 in ICT02 TP), 20 Skill Sets and 238 units of competency. A number of focus areas were specifically identified and incorporated into the Training Package. These focus areas were integrated with the relevant units from the ICT02 Training Package to develop a qualification structure based on functional areas that reflect current and future industry directions.

A total of 238 units (47% of which are new) cover the following functional areas:

- Telecommunications Networks Engineering (85)
- Telecommunications Rigging installations (6)
- Cabling (40)
- Digital Reception Technology (5)
- Broadband and Wireless Networks (5)
- Network Planning (17)
- Radio Frequency Networks (21)
- Optical Networks (13)
- Sustainability (11)
- OHS (3)
- Project Management (13)
- Small and Micro Business(2)
- Workplace Effectiveness (10)
- Compliance (2)
- Education (2)
- Product Skills and Advice (1)
- IT Use (2).

ICT10 also sees the introduction of a 20 skills sets in the areas of:

- Broadband Networks
- Convergence Technologies
- Customer and Access Cabling
- Customer Premises Networks
- Digital Home Integration
- Digital Reception
- Emerging Technologies
- Help Desk Support
- ICT Networking
- Optical and Wireless Networks
- Radio Technology
- Rigging Installation
- Small Medium Enterprise Networks
- Sustainability.

Packaging rules for qualifications are clear and consistent and allow a logical progression of skills development between AQF levels. The package allows for multiple entry points and progression pathways enabling progression from AQF II through to Advanced Diploma and through to Vocational Graduate Diploma level. There are two identified apprentice pathways:

- ICT30110 Certificate III in Broadband and Wireless Networks Technology
- ICT40610 Certificate IV in Telecommunication Networks Technology.

There is also a workplace learning recognition pathway through the ICT40510 Certificate IV in Telecommunications Network Planning.

The judicious packaging of core and elective units has provided great flexibility for participants to cross over from stream to stream with minimal disruptions. This has been possible by minimising the number of core units and allowing greater choice of elective units.

The mainstream pathway is the Telecommunications/Telecommunications Network Engineering that leads to a Vocational Graduate Diploma.

The following Training Packages are the ones from which units have been imported to supplement those developed specifically for the telecommunications industry:

- BSB07 Business Services Training Package
- CPP07 Property Services Training Package
- FNS04 Financial Services Training Package
- HLT07 Health Training Package
- ICA05 Information and Communications Technology Training Package

The importation of units from those Training Packages provides clear support to the telecommunications qualifications in the area of sustainability, project management and IT convergence networks.

Rigger Installers

Industry has identified a skill shortage in a niche area of rigger installers. Essentially they are from an area of the industry which is highly technical but working at great heights installing and maintaining radio installations on structures. Construction riggers are vastly different to radio installation riggers due to the technical content involved whilst working at great heights.

A request was made to IBSA and TITAB from all state/territory riggers to develop a specialised Certificate II and Certificate III qualification to address this shortage. This was endorsed at all the consultation meetings by other parties experiencing similar shortages. (See Appendix 1 for letters of request)

Sustainability

Following the Federal Government announcement on the inclusion of sustainability in all qualifications for 2010, industry feedback was for the development of further 6 units of competency to complement the existing 8 units (5 ICT and 3 imported from BSB07) already in the proposal .

Each qualification now has a core sustainability unit with some elective units as well.

Section 1: Industry priorities and expectations

As with many other sectors, technological convergence is affecting the way people work in the telecommunications industries. The convergence of the voice, data and video networks are having a major effect on the telecommunication industry. In the past, telecommunications network and information technology infrastructures were built on separate technologies and methodologies with little commonality. The historic telecommunications industry structure encouraged the development of vertical business structures to support fixed voice, mobile voice, data, and media services using very different sets of technologies. This resulted in a large number of disparate and unique implementations.

The dramatic rise of the internet and the use of IP based networks have provided a natural infrastructure for the introduction of new services utilising the move from analog technologies to digital IP based networks in the areas of voice, video, television and other media services. Significant shifts to these technologies include a greater application of networks using wireless for data and voice, the roll out of broadband access, the use of digital communications and digital broadcasting, the expansion of wireless systems using mobiles, WiFi, WiMAX, Bluetooth, satellite, etc and the proliferation optical networks to name a few.

Consultation on the above included discussions with and input from major players in the industry, with the result that the revision of the current qualifications and competencies have included where relevant many of the areas mentioned above. Furthermore, care was taken to write units in a way that allows contextualisation as industry practice adapts to new trends and technologies.

The industry is working closely with the government in a number of key policy initiatives including the National Broadband Network (NBN) and the Digital Education Revolution (DER). The qualifications and competencies within this Training Package have been developed with these initiatives in mind. Industry, including many of the key telecommunication companies involved in these government initiatives, has been extensively consulted. Their advice, suggestions and key recommendations have been incorporated where possible. It is envisaged that ICT10 Integrated Telecommunications Training Package will form the basis for training for the industry as these policy initiatives are rolled out over the next few years.

Section 2: Impact of the newly endorsed components

Extent of change and key implications for environments/stakeholders

Public/private training and assessment services

This is a major review and update of the ICT02 Telecommunications Training Package and there will be a need to modify and update training and assessment services to support the:

- redeveloped qualifications that now incorporate the latest technologies
- implementation of the redeveloped units and the 111 new units that support these new technologies
- revision of the current ICT02 Training Package resources and their redevelopment to support the ICT10 Training Package qualifications and units of competency
- updating of training services technologies and delivery strategies to meet the requirements of the redeveloped qualifications and competencies

Enterprises

The telecommunications industry will need to reassess their current training requirements and adjust them in line with the qualifications and competencies incorporated in the ICT10 Integrated Telecommunications Training Package. The updated and technically proficient ICT10 Integrated Telecommunications Training Package will provide enterprises within the industry with the opportunity to ensure that their employees are trained to utilise the best and latest technologies available.

Licensing and regulatory environments

Guidance is provided in Volume 1 of the Training Package and can be summarised as:

Telecommunications regulator

The telecommunications regulator is the Australian Communications and Media Authority (ACMA). The legislation covering ACMA activities involves a broad range of national activities from carrier licensing to use of radio spectrum and the most relevant issue for ICT10 qualifications is the ACMA Cabling Provider Rules Registration.

Australian Communications and Media Authority Building Cabling Regulation CPR Registration – Ex-Licensing

The Cabling Provider Rules (CPR) benchmark units of competency ICTCBL2136A, ICTCBL2137A and ICTCBL2138A meet the ACMA requirements for a cabler 'registration' system involving accredited registrars.

Relationship between units linked to ACMA CPR requirements

Completion of the following six units ICTCBL2005A, ICTCBL2006A, ICTCBL2008A, ICTCBL2012A, ICTCBL2017A and ICTCMP022A exceeds the requirements of the benchmark units ICTCBL2136A and ICTCBL2137A. These two benchmark units are used in telecommunications for the purpose of registering with an accredited registrar of the telecommunications regulator ACMA, as a CPR registered cabler. All of these units appear in relevant qualifications in the ICT10 Integrated Telecommunications Training Package in accordance with Training Package guidelines.

In addition, guidance is provided in the two Rigger Installer qualifications and many units within the qualifications for people working at such heights requiring special equipment. For people undertaking aerial work they may need to use and operate an elevated work platform (EWP), guidance is provided in many qualifications and associated units.

Much of the work is carried out in green sites and construction sites and will therefore require a White Card.

These pertain to the

- National Standard for Licensing Persons Performing High Risk Work (which applies to persons performing dogging and rigging work)
- National Code of Practice for Induction for Construction Work. If so, people entering the construction site are required to complete the general induction training program specified by the National Code of Practice for Induction Training for Construction Work (Australian Safety Compensation Council, May 2007).

The qualifications and units of competency within ICT10 Integrated Telecommunications Training Package have taken into account these requirements and full guidance is provided in Volume 1 of the ICT10 Integrated Telecommunications Training Package.

Policy environment

Industry organisations reviewed units and qualifications to ensure that current copyright legislation and government policy were adequately covered. Training and VET policies were addressed through consultation with RTOs, State and Training Authorities (STAs) and state/territory Industry Skills Councils (ISCs).

Systemic issues that need to be addressed to ensure successful implementation

The major risk to successful implementation of ICT10 Integrated Telecommunications Training Package is inadequate understanding of the major changes that have been undertaken in moving from ICT02 Training Package to the ICT10 Training Package. The complete redevelopment of the qualifications and units of competency to cater for the fast pace of technological change and the cutting edge emerging technologies occurring within the industry sector will be negated if the industry does not embrace the ICT10 Integrated Telecommunications Training Package as a key component of their training platform.

Appendix 1: Letters of request for Rigger Installer Qualifications

RIGGING FOR THE COMMUNICATIONS INDUSTRY

In the past, bodies like Telecom were the major training provider for communications tower riggers. With deregulation and the changing industry, much of this work is now outsourced and training has become somewhat ad-hoc. The various state bodies (under Work Cover) have used the basic rigging qualifications, primarily aimed at the building construction industry for the ticket to tower rigging. The contents of this rigging qualification has little relevance to working on communications towers, and does not equip the worker with knowledge to work in the safe manner in this industry. The aim of our project is to change all this by putting together an industry specific training package and qualification that is recognized by all States and Territories, and all employers in the industry.

The prime industries included the cellular industry (Telstra, Optus, Vodafone), the broadcast industry (Broadcast Australia, WIN TV, Southern Cross, and Prime TV), 2-way industry, and the emerging wireless industry. All of these have common elements, such as installation of hardware at heights, working from towers and monopoles, running cables up the tower, and working from other high structures.

The approach is to run basic modules within a career path, not too unlike the telco cabling qualifications, with various add-ons so that riggers can progress through the system. As this will be a new qualification, we have the opportunity to set best practice standards for the industry. To achieve this we could set regular re-testing intervals to maintain a very high standard, and to allow new techniques and practices to be introduced. This is especially helpful with liability issues, and keeping every one current.

A draft outline of training follows.

Module One (draft)

OH&S

First Aid

RF radiation hazed assessment.

Site assessment, including an understanding of JSA's

Safe rigging principals

Weather awareness

Module TWO (draft)

Use of Gin poles, gantries and other lifting devices

Working with cranes and cherry pickers

Antenna installation

Waterproofing cables and earth joints

Lifting of cables, including heliax.

Use of winches

Module THREE (draft)

Tower construction.

Foundations

Butt section

Freestanding

Use of theodolite and cable tension gauges

Module FOUR (draft)

Team leader

Responsibilities

Team management

Tower rescue

Additional Modules would include

Cable termination of RF cables

Fibre optic handling and termination

Earthing, including cad-weld

Building entry for cables

Installation of 19-inch rack equipment.

Testing of feeders and antennas using a cell master (return loss measurement and distance to fault)

Use of DVM and earth tester

The above outline is a draft for comment, and not a final document.

Iain Pick, Canberra, 4/5/08

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Ian Williams ian@allstatesriggers.com.au

Mobile 0418 324 234

From: [Gabriele Giofre](#)

Sent: Wed 29/04/2009 17:14

To: [Franco Salaun](#); [Christopher Zvirblis](#)

Cc: [Maria Deak](#); ipick@bushlink.net.au; iain@allstatesriggers.com.au

Subject: FW: Communications rigging, background

Attachments:  [CITT.pdf\(60KB\)](#)

[View As Web Page](#)

Hi Franco,

I have spoken to Ian Williams to gain his permission to forward you this outline for a "Riggers" course.

This is great input into the requirements for the design of a Telecommunications Riggers Certificate or Competency "Skill Set".

Please ensure that you send an invite to both Ian Williams and Iain Pick to participate in the Canberra workshop.

The attached pdf includes course outline and contact details.

Regards,

Gabriele Giofre
Industry Manager

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Mr. Dominic Schipano

National Executive Officer

TITAB Australia

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Carlton South

VIC 3053

Dear Sir,

Re: Skills needs and shortages – Telecommunications Riggers

There is a significant amount of telecommunications infrastructure and related work currently undertaken in Australia, and there is a chronic shortage of a number of skills in the workforce and an urgent need for this to be addressed.

The purpose of this letter is to draw your attention to the case for communications riggers to be recognised in a formal national qualification. Also some work needs to be undertaken by TITAB/CITT, with representations to be made to relevant skills councils and government agencies, to bring more people into this field of activity, as well as develop a suitable set of qualifications.

As TITAB/CITT often performs operational roles implementing the Telecommunications Training Package ICT02, in association with IBSA (Innovation and Business Skills Australia), it seems appropriate that our initial approach is made through your organisation.

In the past, bodies like Telstra were the major training providers for communications tower riggers, however, with deregulation and privatisation and other industry changes, much of this work is now outsourced. As a consequence, training has become ad hoc and the competition for skilled labour due to economic factors, such as the resources boom, has exacerbated the problem.

There is an urgent need to develop a set of qualifications – probably at Certificate II, III and IV level - to help set out a career path for communications riggers and also for the relevant government agencies to take some action to assist employers to recruit suitable staff, without recourse to importing labour on the 457 visa system.

There have been some attempts in the past to avoid training responsibilities and alleviate the immediate skills shortages by the import of labour, but most industry analysts would agree it was a failure on a number of counts. The impending rollout of the governments' national broadband network plan will require contractors to supply skilled labour able to build the network at relatively short notice. This further highlights the need for urgent action.

The prime sectors needing communications riggers include:-

- the cellular phone industry (e.g. Telstra, Optus, Vodafone, Hutchison)
- the broadcast industry (e.g. Broadcast Australia, WIN TV, Southern Cross and PrimeTV)
- the two radio industry, and
- the emerging wireless communications industry

These have a number of common elements, such as installation of hardware at heights, working from towers and monopoles, running cables up the tower and working on other high communications facilities and structures.

The industry preferred approach is a number of basic modules within a career path, similar to the telco cabling qualifications, with various add-ons so that riggers can progress through the competency based system. If a suitable set of qualifications can be developed within a reasonable time frame, there is an opportunity to set best practice standards.

There will probably be a need for the telecommunications rigging sector of the industry to facilitate, or, conduct “re-testing”, or, some form of professional development, at suitable intervals. This aspect would need future attention to handle liability and OH&S issues. Industry prefers a national “ticket” system but recognises the current role the states and territories play and notes that recent “mutual recognition” arrangements, may achieve this objective.

It should be stressed that the current state and territory certification requirements for riggers are not appropriate for communications riggers and are mainly addressed to the needs of the building construction industry. Working on communications towers, monopoles and other high structures, requires a more specialised training program and competency assessment regime.

Preliminary assessment by a number of industry participants, indicates that a set of qualifications could be built from existing telecommunications training materials with additional material supplied by industry. Consultation with industry on development of the qualifications would be facilitated by industry members who would also be willing to supply subject matter experts.

Your early consideration of this request would be appreciated.

Yours sincerely,

Signed

Date

Appendix 2: National Project Reference Group membership

Name	Organisation
Peter O'Connor (chair)	CERQ
Gabriele Giofre	IBSA
Mari Deak	IBSA
Anthony Sapardanis	Telstra Network Technology Group
Arvind Sharma	RMIT School of Engineering
Eddy Vanda	RMIT
Paul Castro	Optus
Ros Eason	CEPU
Trevor Conquest	Conquest Communications
Franco Salaun	TAFE NSW
Chris Zvirblis	TAFE NSW
Beth Ross	DEEWR
Debra Doherty	Skills Tasmania

Appendix 3: Communications Strategy

Key communication and feedback mechanisms
Email groups to ensure easy communication between consultants, NPRG members, focus groups, state/territory ITABs, industry and RTO stakeholders.
Two national face-to-face consultation meetings in all states and territories
Two online forums (Wiki's: Cabling & Technical) <ul style="list-style-type: none"> • to disseminate information and encourage collaborative stakeholders' contribution to developments • to gather critical data and feedback • to facilitate stakeholder debate and discussion
Face-to-face industry consultation meetings to scope new directions and enhancements
Industry events and networking to maximise awareness of review
Continuous electronic project updates to stakeholders through the online forums and email
IBSA Review and Feedback Register website utilised for general updates and draft units and qualifications

SAMPLE OF ELECTRONIC UPDATES



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Welcome to this wikispace – ICT02 Cabling & Infrastructure.




UPDATE - 27th August 2009
Chris Zvirblis (posted on behalf of Kevin Fothergill, CITT)
This update refers to [Proposed ICT02 Help Desk Skill Set](#). Please comment

UPDATE - 25th August 2009
Chris Zvirblis
This update refers to [Work safely on Roofs](#). Please comment.

UPDATE – 26th July 2009
C. Zvirblis
This update lists the ELEMENTS and PERFORMANCE CRITERIA for all the [New Units](#)

Done

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Actions

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Navigation

- Home
- Cert 4 to Grad Dip Qual Structures
- ICT Sustainability units
- ICT02 - Proposed Qualifications Pathways
- ICT02 List of Units of Competency
- MAPPING Table C4 to GD
- National Consultation Workshops - Minutes & Discussions
- New Units
- Proposed Technical Support Desk Competencies.
- UNIT LIST

external image of 

UPDATE - 24th July 2009
C.Zvirblis

This update lists the ELEMENTS and PERFORMANCE CRITERIA for all the [New Units](#)

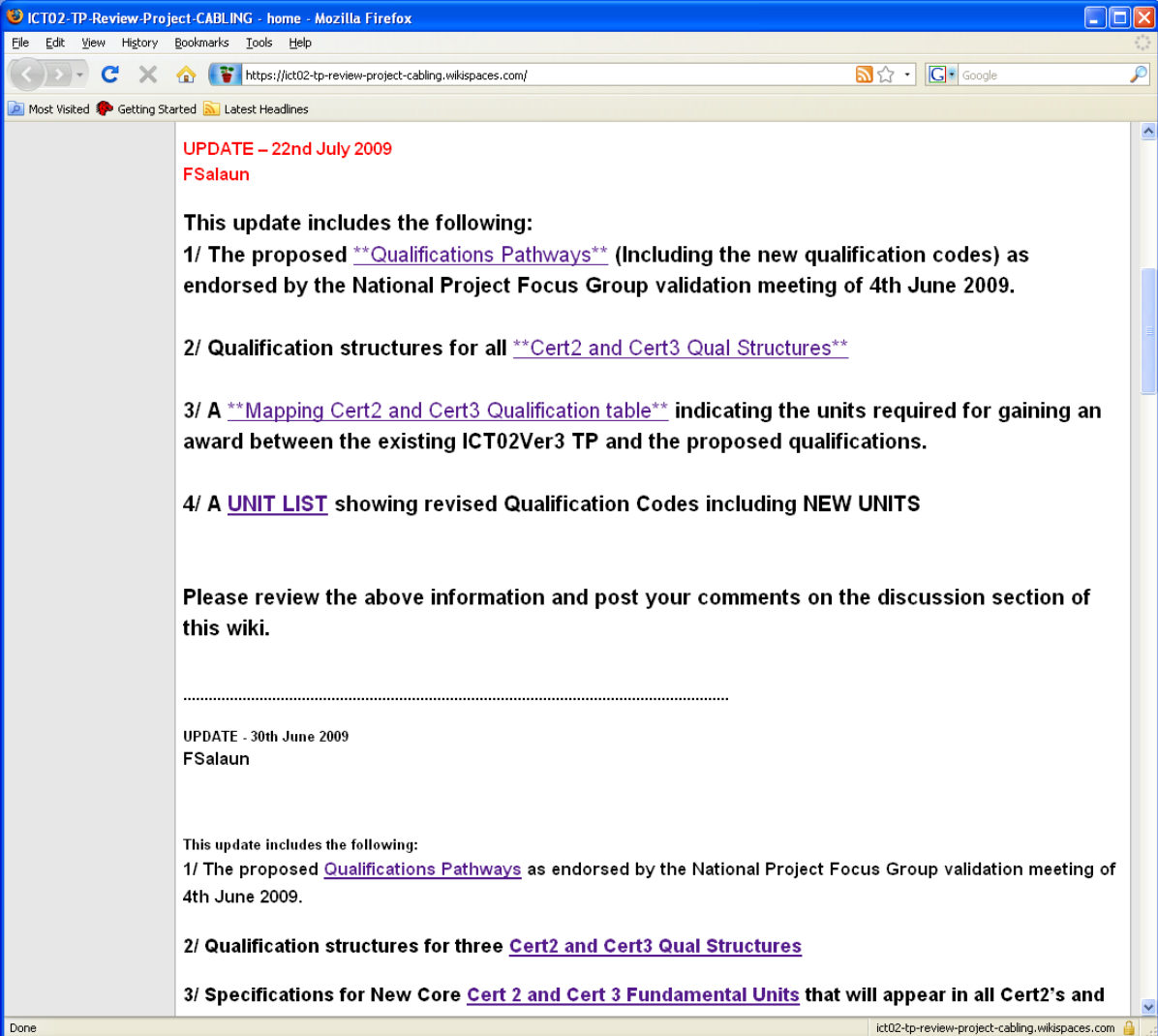
ICT09 SKILL SETS are also uploaded  [ICT09 SKILL SETS.doc](#)

Please have a look at the New Units and ICT09 SKILL SETS prior to the 2nd round of workshops in late July - early August

UPDATE - 22nd July 2009
FSalaun

This update includes the following:

Done ict02-tp-review-project-tech.wikispaces.com



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UPDATE – 22nd July 2009
FSalaun

This update includes the following:

- 1/ The proposed **Qualifications Pathways** (Including the new qualification codes) as endorsed by the National Project Focus Group validation meeting of 4th June 2009.
- 2/ Qualification structures for all **Cert2 and Cert3 Qual Structures**
- 3/ A **Mapping Cert2 and Cert3 Qualification table** indicating the units required for gaining an award between the existing ICT02Ver3 TP and the proposed qualifications.
- 4/ A **UNIT LIST** showing revised Qualification Codes including NEW UNITS

Please review the above information and post your comments on the discussion section of this wiki.

.....

UPDATE - 30th June 2009
FSalaun

This update includes the following:

- 1/ The proposed **Qualifications Pathways** as endorsed by the National Project Focus Group validation meeting of 4th June 2009.
- 2/ Qualification structures for three **Cert2 and Cert3 Qual Structures**
- 3/ Specifications for New Core **Cert 2 and Cert 3 Fundamental Units** that will appear in all Cert2's and

Done

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The screenshot shows a Mozilla Firefox browser window with the address bar displaying <https://ict02-tp-review-project-cabling.wikispaces.com/message/view/home/12715389>. The page title is "Terminology".

Navigation

- Home
- Cert 2 and Cert 3 Fundamental Units
- Cert2 and Cert3 Qual Structures
- ICT02 List of Units of Competency
- Mapping Cert2 and Cert3 Qualification table
- National Consultation Workshops - Minutes & Discussions
- New Units
- Proposed ICT02 Help Desk Skill Set
- Qualifications Pathways
- UNIT LIST
- Work safely on Roofs [edit navigation](#)

Terminology

[delete topic](#) | [Monitor this Topic](#) | [Lock this Topic](#)

ken! Terminology
 Sorry I couldn't make the workshop in Brisbane.

Some great input from the State Workshops to be considered when reviewing the TP. I agree with most of what was stated. There are common issues coming from every State and that is encouraging.

While reading the minutes though I was struck by the incorrect use of the term "licence" when referring to the Cabling Provider Rules registration. It concerns me that if we can't use the correct terminology then what hope for the general public?

Regards
 Ken Lingwood
 Posted Jun 8, 2009 11:36 pm - [delete](#)

Conquest re: Terminology
 Let's be honest about this, the government push to change the "word" they want us to use "registration" rather than the original term "licence" is nothing more than a sham to try and make the collection of fees seem more palatable to the general populous.

At the end of the day you pay for a LICENCE as it is traditionally known and I for one could care less whether you want to play the ACMA game and call it a registration or a licence. Either way it's a tax.

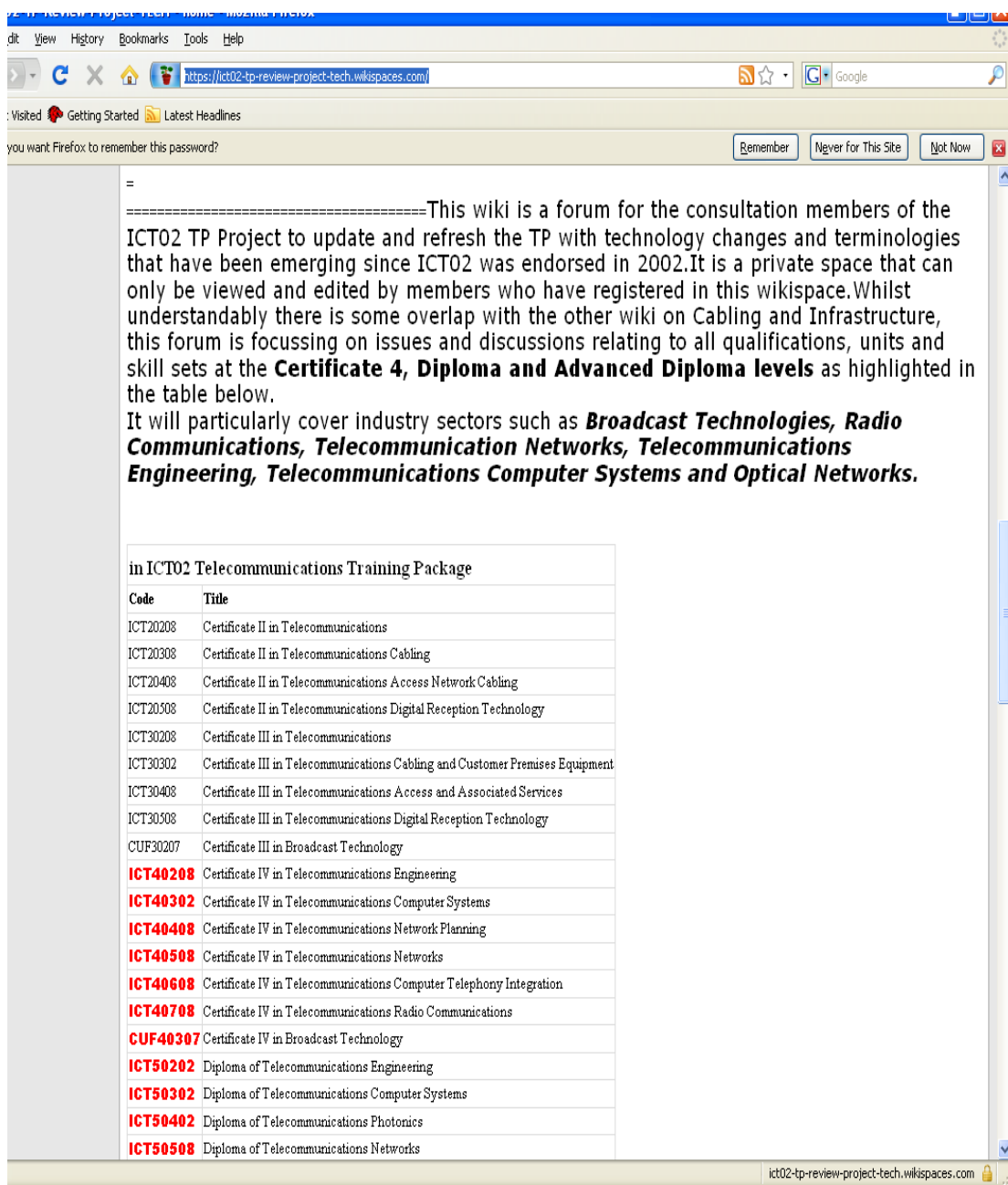
I think students, cablers and the general public are quite aware that either terminology used is a clear indication of a tax and you have to pay up.

I personally use both terms. To let students know what they are applying for I use the Open Cabling Registration term but also refer to it as a licence to make sure the students get it that it is a tax after all.

The mixture of terms "registration" and "licence" are fine with me and if it makes people think and question the terms even better.

hope to catch you at the next workshop Ken, cheers Trevor.
 Posted Jun 9, 2009 3:55 pm - [delete](#)

Franco3 re: Terminology
 I agree that many labels are interchangeable in the eyes of the participants. It is the end outcome that matters. At the end of the day, students have to do a certain amount of industry specific training to attain proficiency and competency to meet say Restricted Licence or Open Registration.
 Posted Jun 16, 2009 5:58 pm - [delete](#)



=====
 =====This wiki is a forum for the consultation members of the ICT02 TP Project to update and refresh the TP with technology changes and terminologies that have been emerging since ICT02 was endorsed in 2002. It is a private space that can only be viewed and edited by members who have registered in this wikispace. Whilst understandably there is some overlap with the other wiki on Cabling and Infrastructure, this forum is focussing on issues and discussions relating to all qualifications, units and skill sets at the **Certificate 4, Diploma and Advanced Diploma levels** as highlighted in the table below.
 It will particularly cover industry sectors such as **Broadcast Technologies, Radio Communications, Telecommunication Networks, Telecommunications Engineering, Telecommunications Computer Systems and Optical Networks.**

Code	Title
ICT20208	Certificate II in Telecommunications
ICT20308	Certificate II in Telecommunications Cabling
ICT20408	Certificate II in Telecommunications Access Network Cabling
ICT20508	Certificate II in Telecommunications Digital Reception Technology
ICT30208	Certificate III in Telecommunications
ICT30302	Certificate III in Telecommunications Cabling and Customer Premises Equipment
ICT30408	Certificate III in Telecommunications Access and Associated Services
ICT30508	Certificate III in Telecommunications Digital Reception Technology
CUF30207	Certificate III in Broadcast Technology
ICT40208	Certificate IV in Telecommunications Engineering
ICT40302	Certificate IV in Telecommunications Computer Systems
ICT40408	Certificate IV in Telecommunications Network Planning
ICT40508	Certificate IV in Telecommunications Networks
ICT40608	Certificate IV in Telecommunications Computer Telephony Integration
ICT40708	Certificate IV in Telecommunications Radio Communications
CUF40307	Certificate IV in Broadcast Technology
ICT50202	Diploma of Telecommunications Engineering
ICT50302	Diploma of Telecommunications Computer Systems
ICT50402	Diploma of Telecommunications Photonics
ICT50508	Diploma of Telecommunications Networks

Appendix 4: List of Stakeholders Consulted

Industry Stakeholders			
Name	Surname	Company	Position
Patrick	Attard	TYCO Electronics	Training Manager
Cameron	Baker	CIT Solutions	Manager, Special Projects Unit
Kyle	Barnes	Telstra – Network and Services	Technical Expert
Lex	Batterham	ECA	CPE consultant
Adrian	Bettiol	FOCAS	Fibre Specialist Trainer
Jodie	Bickhoff	QR Limited	Workforce Development Manager
Ian	Bowden	Powercom	Technical Manager
Robert	Brand	Altnet	Managing Director
Roy	Brandner	Defence Force	Warrant Officer
Mike	Brassington	Telstra	HR Manager
Mike	Brocksopp	Skilled Engineering	Operations manager
Colin	Browitt	BICSI – Sth Pacific	Consultant
Tim	Buntain	ACE Cabling	General Manager
Gary	Busbridge	Clipsal	Manager
Paul	Castro	Optus Training	Technical Training Specialist
Catherine	Cave	Powercom	Construction Manager
Andrew	Constantinou	RailCorp	Group Manager
Brian	Cook	Telstra	Technical Manager
Scott	Cook	Kelectech	Manager
Michael	Cooper	Austereo Pty Ltd	Technology Manager
Lindsay	Cordner	Diamond Australia P/L	Sales and Marketing Manager
Eddie	Corralles	Celemetrix	Sales Director
Stephen	Creese	Matchmaster	QLD Regional Manager
David	Crotty	OPTUS	Network Engineer
Mark	Daly	DESA	Project Manager
Anne	Dasgupta	OPTUS	Optus Technology Education Centre
Brent	Dennis	ATI Australia	Senior Technician
Marcus	Deratz	Airspan Networks P/L	Business Development Manager
Bill	Dokter	BSA Advanced Learning	Training Manager
Lachlan	Donald	OPTUS	Specialist Trainer
Shara	Evans	Market Clarity	CEO
Scott	Evans	Emerging Technology	Specialist
Andrew	Findlay	Vertel	Managing Director

Brendan	Foley	BSA	Group General Manager
Warren	Forgan	Darwin Data Cablers	Manager
Helen	Foster-Penn	OPTUS	Optus Technology Education Centre
Jason	Galea	Foxtel	Manager
Anastasia	Goda	OPTUS	Network Engineer
Jenny	Gosper	IIT	Training Manager
Paul	Granville	Telstra	Technical Manager
Peter	Griffith	Open Energy - SA	Consultant
Mike	Groeneweg	AARNET	Network Engineer
Keryn	Gurowski	QR Limited	Governance and Planning Manager
Clive	Haddon	OFP - SA	Technical Manager
Peter	Hickey	Data Protection & Support	Operations Manager
Brian	Hodge	BTAS/DCS	Technical Manager
Brendon	Hooper	ATS	General Manager
Shane	Humphreys	Telstra	Technical Manager
David	Hunter	OPTUS	Optus Technology Education Centre
Daryl	Hunter	SA Australian Apprenticeships Centre	Manager
Clive	Jamieson	Nortel	Technical Specialist
Tim	Jensen	Telstra – Enterprise and Government	Manager – Radio and Wireless Solutions
Gerry	Jones	Astelec	Technician
Norman	Joseph	Telstra – Service Delivery	Trainer Broadband
David	Kalcher	AAPT	Project Manager
Shane	Kale	Telstra	Manager
John	Kelly	Enjine	Principal Instructor
Greg	Kenyon	Servicestream	General Manager - HR
Zach	Kernich	Telstra	Technical Manager
Robert	Krawczyk	Complete Comms Services	Technical Specialist
Terry	Lancaster	C-COR	Senior Systems Engineer
Graham	Loose	Samsung Communications SA	Technical Manager
Andy	McKee	Defence Force	Warrant Officer Class One
Marty	McLaren	Three Dee Bee P/L	Director
John	McRedmond	Defence Force	Warrant Officer
Peter	Meijer	ADC Krone	Manager Technical Training
Dennis	Middleton	DESA Australia	Manager
Darren	Mills	Vinotec	Project Manager

John	Montgomery	Defence Force	Warrant Officer Class One
David	Moore	BSA	Training and Quality Manager
Tim	O'Dea	BES	Training Manager
Peter	Parry	370 Traineeships	Traineeship Services Manager
Ewan	Parsons	Open Energy	Consultant
Kevin	Patterson	Telstra	Technical Manager
Gerry	Pentland	Diamond Australia P/L	Telstra Account manager
Ed	Peveryley	Diamond Communications	Quality Manager
Iain	Pick	All States Riggers	Technical Director
Alastair	Reynolds	Radio 2UE	Chief Engineer & IT Manager
Sandra	Robinson	Skills Strategies International	Consultant
Anthony	Sapardanis	Telstra	Senior Learning and Development specialist
Clarrie	Serrao	Opnetex	Director
Bill	Shaw	Diamond Communications	General Manager
Leanne	Shepard	Workbased Capabilities	Principal Consultant
Alec	Slamin	Victec Group Training	Training Manager
Andrew	Small	Defence Force	Warrant Officer Class One
Craig	Smith	TX Australia P/L	State Engineering Manager
Mark	Smith	North Australian Technologies	Managing Director
Andrew	Soldatos	Celemetrix	Managing Director
Julie	Spencer	Broadcast Australia (BA)	Broadcast Engineer
Grant	Stepa	Airspan Networks P/L	Managing Director Aus/NZ
Helen	Stig	Cisco Networking Academy	Area Academy Manager – ANZ
Stan	Tonkins	Tirrintippin	Technical Director
Percy	Underwood	Matchmaster	Training Manager
Glen	Watson	North Australian Technologies	Training Manager
Matthew	Wegener	Celemetrix	Managing Director
Christopher	Welch	TX Australia Pty Limited	National Engineering Manager
Petrina	Wetzel	Excelior & Skilled Group	National Training Manager
Ian	Williams	All States Riggers	Technical director
David	Woodgate	Telstra	Technical Manager
Darrell	Wyatt	NECA	Trainer
Industry Associations and Bodies			

Name	Surname	Company	Position
Paul	Budde	Paul Budde Communications	Manager
Steve	Butterworth	CEPU - Communications	Delegate
Vanessa	Cox	TasICT	Exec Officer
Margarite	D'Cruz	ACEA	Chair
Sharon	Dignard	Chamber of Commerce & Industry WA	Senior Advisor Industry Policy
Steve	Dodd	CEPU - NSW Postal & Telecommunications Branch	Branch Assistant Secretary
Ros	Eason	CEPU	Project Manager
Lance	Fung	ATUG (WA)	Chair
Mark	Jones	CSC/AIIA	Manager
John	Lee	CEPU - Communications	Delegate
Henry	Louey	Comp TIA	Manager
John	Maizels	MITC	Chair
Veronica	Mauri	ECA Technical Communications	Education and Training Manager
Valerie	Maxville	ICTICC (ICT Industry Collaboration Centre of WA)	Chair
Jim	Owens	Australian Computer Society (ACS)	Secretary
John	Rodgers	TDC/TITAB	Consultant
Dominic	Schipano	CITT	Executive Officer
Rosemary	Sinclair	ATUG	Managing Director
Geoff	Taylor	CEPU	Delegate
Registrars			
Name	Surname	Company	Position
Kevin	Fothergill	TITAB ACRS	National Registrar
Government Departments			
Name	Surname	Company	Position
Peter	Bennett	ACT DET	Program Manager
Deb	Doherty	Skills Tasmania	Senior Project Officer
Jennifer	Dunbabin	Skills Tasmania	E-Learning coordinator
Ross	Hughes	ACT DET	Project Manager
Julie	Henderson	Skills Tasmania	Industry Liaison Officer – Green skills
Chris	Howard	NT Govt	ICT Industry Development Senior Manager
Mia	Lauze	DBCDE	Assistant Manager

Andrew	Lowes	DEEWR	Project Officer
Gail	Manton	Curriculum Council WA	VET Project Officer
Reinholt	Ortlepp	Department of Economic Development	Senior ICT Project Manager
Roger	Pocock	Apprenticeships Australia	Apprentice Coordinator
Beth	Ross	DEEWR	Project Manager
Industry Training Boards			
Name	Surname	Company	Position
Michelle	Bailey	MITAC (Major Industries Training Advisory Council)	Project Officer
Melanie	Brenton	Service Industries Training Advisory Board	Executive Officer
Alex	Frazer	EPIC ITB	Executive Officer
Mal	Gammon	WA IEU	Executive Director
Anthony	Leverenz	EWSB (Electrotechnology and Water Skills Board Inc)	Executive Officer
David	Love	EUPA (WA)	Executive Officer
Zoe	Nicholson	FutureNow	Project Manager
Lee	Pritchard	EUPA (Electrical, Utilities and Public Administration Training Council Inc)	Project Officer - Electrical
Bob	Snedden	Communications Industry Training Advisory Board (NSW)	Executive Officer
John	Shearston	EE - Oz	for Executive Officer
Archie	Wright	MITAC (Major Industries Training Advisory Council)	Executive Officer
Registered Training organisations (RTO)			
Name	Surname	Company	Position
George	Adda	Box Hill Institute	Curriculum Maintenance Manager
Graeme	Arnett	Box Hill Institute	ICT Trainer
Les	Bailey	MILCOM	Trainer Manager
Antoaneta	Barbulescu	TAFE SA Regency Campus	Principal Lecturer
Peter	Berry	TAFESA, Regency Campus	Lecturer
Stephen	Besford	Box Hill Institute	Program Manager
Adrian	Bettiol	GIPPSTAFE	Lecturer Energy Training

Klaus	Bienert	Box Hill TAFE	Curriculum Maintenance Manager
Lindsay	Bradley	GIPPSTAFE	Training Consultant Telecommunications
Jack	Burgess	Challenger TAFE	Lecturer
Alan	Byrne	RAMSDEN Telecommunications Training	Trainer
Angela	Cacciotti	Optus College	Training Manager
Gavin	Chan	Box Hill Institute	Lecturer
Trevor	Conquest	Conquest Communications	Training Manager
John	Croxson	JB Hunter Technology	Director (Ian Palmer)
Joe	D'Amico	Chisholm Institute	Manager Business IT, Chisholm
Pradip	Dhokal	Pacific College of Technology	Manager
William	Dokter	BSA	Training Manager
Anthony	D'Orival	Charles Darwin University	Lecturer
Tony	Duffy	Brisbane North Institute of TAFE	Operations Manager
Linden	Fuller	SWSI TAFE NSW	Faculty Director
Marg	Gannaway	Challenger TAFE	Director IT & Business Skills Centre
Peter	Gamble	BNIT	Manager
Debra	Hardy	Box Hill Institute	Project Manager, Specialist Centre ICT
Joe	Henry	Bendigo Regional Institute of TAFE	Manager
Carl	Holmes	Integracom	Prin Dir - Telecoms & Technical Security
David	Howard	Box Hill Institute	Lecturer
Andrew	Hudson	Tasmanian Skills Institute	Teacher, Electrotechnology
Mal	Ioannou	Northern Melbourne Institute of TAFE	Trainer
Komal	Khatiwada	Pacific College of Technology	Registrar
Mick	Koppie	Electro Group	Field Officer
Phillip	Lennon	TAFE NSW	Telecommunications Head Teacher
Ken	Lingwood	Skillstech Australia	Trainer
Phillip	Lucas	Box Hill Institute	Academic Administrator
Greg	Maslen	RAMSDEN Telecommunications Training	Training Manager
Glen	McDonnell	Milcom	General manager
Tony	McKinlay	Tasmanian Skills Institute	Customer Relations Manager
Catherine	Miller	WSI TAFE NSW	ICT Head Teacher

Michael	Moulton	South Western Sydney Institute	A/Head Teacher - Telecommunications
Frank	Novacco	RMIT	Trainer - Telecommunications
Peter	O'Connor	CERQ	Director
Roy	O'Malley	BNIT	IT Education Consultant
Ian	Palmer	JB Hunter	Trainer
Terry	Parkes	Clarence Polytechnic	Lecturer
Les	Quarman	Central TAFE WA	Lecturer/Manager
Bevan	Ramsden	RAMSDEN Telecommunications Training	Director
Franco	Salaun	TAFE NSW	Education Program Manager - ICT
Asraf	Salem	Northern Sydney Institute	Head Teacher
Ian	Scott	Integracom	Specialist Trainer
Dorothy	Sinclair	Central TAFE WA	CSSN
Arvind	Sharma	RMIT - SIEBS	Manager
Murray	Smith	Central West College of TAFE	Trainer
Gary	Syrett	Tasmanian Skills Institute	Trainer
Jeff	Teasel	Sydney Institute	Trainer
Eddie	Vanda	RMIT - SIEBS	Manager
Phillip	Wynter	Swan TAFE	Teacher
Christine	Yendall	GIPPSTAFE	Manager
David	Zanich	Central TAFE WA	Learning Provider Manager