APEC Transportation Working Group

Project on Towards Mutual Recognition Of Transport Professional Qualifications

Stage 4 – A Framework for Recommended Practices (Tender: TPT01/2001)

Final Report
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CONTENTS

Executive Summary

The ultimate aim of mutual recognition is the harmonisation of qualifications across all of the APEC economies. This is very much a long-term objective and the achievement of shorter and medium term objectives will assist by minimising barriers to reaching the longer term goal.

This project is undertaken by the APEC Transportation Working Group (TPT-WG), of which this report is the function of the Stage 4 Taskforce. The project is part of APEC 2001 theme: "Meeting New Challenges in the New Century: Achieving Common Prosperity through Participation and Cooperation".

There are a number of stages in progressing from the total rejection of qualifications earned or awarded outside the purview of one administration to the unfettered acceptance of such qualifications. These stages include (but are not limited to):

- Partial recognition and acceptance
- Conditional recognition and acceptance
- Bilateral recognition and acceptance
- Multilateral recognition
- Transparency in recognition of the qualification

Progress towards mutual recognition will be dependent upon confidence in the content of the qualifications, the quality of the end 'product' and the integrity of the process.

The model proposed in this report aims to provide a framework which facilitates transparency in the recognition of qualifications and identification of differences to enable some form of rectification, leading to mutual recognition. As this process proceeds, there will be progress towards the eventual aim of harmonisation.

In the European Union (EU) harmonisation in many areas, including recognition of qualifications and the mobility of qualifications between the economies, has been achieved by regulation. The process within APEC is fundamentally different, with consensus and voluntary adoption of developmental infrastructure changes as the usual means of operation. Thus, it is unlikely that a 'top down' approach to harmonisation of transport professional qualification across the APEC economies would be successful; rather, a means of ensuring acceptance by the users of any system of recognition is necessary. This acceptance would be best achieved by demonstrating benefit to the users. In this respect the motivating factors towards mutual recognition of transport professional qualifications within the APEC community would be economic and increasing acceptance would be market driven.

A very general comparison in this regard can be drawn with the 'APEC Business Travel Card' (ABTC). The card is not universally recognised within the APEC community; however, as the benefits become more apparent to member economies and the appropriate national regulations and procedures are put in place, recognition is growing.

It can be anticipated that a similar situation to the ABTC will exist with respect to the mutual recognition of professional qualifications in the transportation sector. The proposed framework allows for progressive extension of the recognition from bilateral, through multilateral recognition to eventual harmonisation. It also provides a mechanism whereby an individual can identify the requirements to achieve recognition of a qualification in any chosen economy and the means by which that recognition can occur.

It is possible to separate most qualifications into a number of competencies. Issues for qualification recognition in the land transportation

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industries are not truly related to the professional levels. In practice they relate to what could be called the 'para professional' level; that is, the level of operator or 'driver'. In this context the competencies are more the issue than the qualifications, per se. When considered across the entire range of professions under discussion this issue is universal and also provides an insight into a possible means of determining the framework for creating greater levels of recognition across different economies.

At all levels, it is difficult to definitively compare the qualification conferred by one academic institution with that conferred by another.

Consideration of the qualification and its associated training/learning could be measured by the learning outcomes whereby a framework of criterion, referencing competency gained or equivalent knowledge obtained, can form the basis of a model. This, then, provides a framework by which "qualifications" can be accurately compared. It is noted that national "training" agencies in member economies are making increasing use of such "competency based" assessments.

The Stage 4 Taskforce developed a 'model concept' designed to address the following requirements:

- preparation of a core set of competency descriptions encompassing all APEC economies;

- collation of competencies required either by qualification or by economy;

- comparing and differentiating between two or more economies;

- addressing the identified differences in education/training;

- documentary systems that support a Quality Assurance Program.

The model further endorses the need for an implementation methodology by the use of a transparent qualifications framework, in conjunction with the consultative processes and monitoring systems required. The model also includes a 'future proofing' mechanism that would allow for new qualification and curriculum development. Of necessity, this would be an iterative process.

Recommendations are included in the body of this report. (noted by the annotation **Rn** [Reference no]) A summary of recommendations is also provided.

1.   BACKGROUND

There is already a high degree of mobility of transport professionals throughout the APEC economies.   Mutual recognition of the professional qualifications of transport professionals would bring benefits in allowing greater mobility of those professionals, with the attendant increase in productivity and ease of operation and human resource management for organisations operating in and between those economies.   Additionally, certain efficiencies are achieved by administrations due to the non-duplication or minimisation of testing/examination.   In this respect, this project clearly supports the aims of the TPT WG and will contribute to the overall objectives of APEC and subsequently the economic growth of the member economies.

1.1   Mutual Recognition

As first expressed in Washington DC, and since recorded in Transportation Ministerial Meetings, the term "mutual recognition" is used to describe the achievement of harmonization of transport regulatory practices, or where applicable, mutual recognition or reciprocal acceptance of such practices.   Furthermore, this is embodied in a shared interest in streamlining and ultimately removing requirements for 'multiple' certification of carriers engaged in transport services between economies, or of organizations providing repair and maintenance services for carriers based in other economies.   This should be accomplished in a manner consistent with international safety and security standards.   As such, it is not necessary for a member economy to unreservedly accept the qualification issued by another member economy, per se;   rather, mutual recognition can be achieved by acknowledging the skills (competencies) embodied in a qualification and then determining the additional competencies and requirements needed to enable "qualification" in other member economies.

1.2   The Project in an APEC Context

The Asia-Pacific Economic Co-operation (APEC) forum was established in 1989 in response to the growing interdependence among Asia-Pacific economies.   Begun as an informal dialogue group, APEC has since become the primary regional vehicle for promoting open trade and practical economic co-operation.   Its goal is to advance Asia-Pacific economic dynamism and sense of community.   Today, APEC has 21 member economies with a combined Gross Domestic Product of about US$18 trillion and 46.76 percent of global trade occurring within and between member economies.

The practical working of the APEC organisation is achieved by the operation of a number of Working Groups, one of which is the TPT-WG with the objective to foster the efficiency of the regional transportation system.   The TPT-WG, which sponsored this project and under whose supervision it is being conducted, fosters economic development in the Asia-Pacific region The TPT-WG has appointed three Steering Committees addressing the following priority areas:

- More Competitive Transportation Industry (including infrastructure);

- Safe and Environment-Friendly Transportation Systems (including New Technologies); and

- Human Resources Development (including Training, Research and Education).

The TPT-WG has made recommendations to increase the efficiency of the regional transportation system by:

- **the facilitation** of movement of qualified transport personnel across economies;

- **the implementation** of best practice approaches to mutual recognition; and

- **creating opportunities** for cooperation and exchange and simplification of recognition arrangements.

Recognising the impact mobility of professionals has on the expansion of business between Economies, the TPT-WG has considered measures to promote transparency in regulations and processes to facilitate the mobility of transport professionals. An essential element of this activity is to encourage mutual recognition of professional qualifications, including accreditation and training.

In April 1999, the project 'Towards Mutual Recognition of Transport Professional Qualifications' was developed by Australia, in response to a call by Transport Ministers for measures to promote transparency in regulations, resolve differences in conformity assessment and facilitate the mobility of transport personnel by encouraging mutual recognition of professional qualifications. The project is aimed at

> *'identifying measures that promote the mutual recognition of qualifications and skills of transport professionals between APEC economies which will in turn facilitate the mobility of qualified transport personnel and promote transparency of transport policies, regulations, procedures and standards'.*

The project was approved to be undertaken in four stages:

- *Stage One*: identification of priority transport professions for attention and clarification of information required on entry standards in these professions;

- *Stage Two*: preparation of a survey questionnaire to obtain comparable information on entry requirements, examples of co-operative practices, barriers and associated reasons;

- *Stage Three*: analysis of the survey results to identify factors in the recognition of professions by economies in order to establish the scope for a practical model of recommended practices for mutual recognition;

- *Stage Four*: establishment of a framework for recommended practices for mutual recognition, focussing on characteristics of particular professions in demand or with a high degree of mobility; and establishment of a mechanism to facilitate recognition in relation to transparency, quality assurances in accreditation and recognition system.

The project will contribute to the 2001 theme selected by APEC: "Meeting New Challenges in the New Century: Achieving Common Prosperity through Participation and Cooperation".

The principal beneficiaries of increased efficiency of regional transport systems include:

- **industry and commerce** by the ready availability and rationalisation of acceptably qualified transportation resources between economies;

- **regulatory/licensing authorities** by efficiencies gained through reduced duplication of effort between economies by the development and application of acceptable qualifications/licensing standards;

- **relevant educational and training institutions** through the widening of market opportunities to include all APEC economies as a result of the recognition of the learning/competency requirements for acceptable qualification/licensing standards. The potential also exists for the harmonisation of APEC's collective educational and training resources; and

- **transport professional bodies** through commonality of standards and wider employment opportunities for their constituents.

It is noted that the work of the three TPT-WG Steering Committees is not mutually exclusive. Consequently, elements of this project may be of potential interest to all three Steering Committees.

The TPT-WG has identified six professions which would provide the greatest immediate potential for achieving mutual recognition goals. These are:

1. Intermodal / Logistical Systems Managers (I/LSM)

2. Professional Railway Engineers (PRE)

3. Commercial Vehicle Operators/Truck Drivers (CVO)

4. Air Traffic Control (ATC)

5. Flight Crew (cockpit) - (FC)

6. Licensed Aircraft Maintenance Engineers (LAME)

1.3   Terminology

Qualification, competencies and recognition are the key terms that are used throughout the report but the characteristics that distinguish them require definition. For example the difference between qualifications and competencies is not immediately evident: recognition similarly has a number of interpretations ranging from academic or statutory recognition through to recognition by the eventual employer of staff with particular skills; therefore the accepted meanings of these three key words are provided below.

1.3.1 Definitions

Competencies: the skills and knowledge needed for effective performance in the workplace prescribed by the standards of the relevant industry; of being capable of meeting the prescribed standard of performance for the nominated task

Qualification: the official record of achievement or credential awarded for the successful completion of a defined set of competencies which establishes a specified and identifiable point of achievement relevant to industry and community needs; the successful completion of a course of training or passing of an assessment or examination.

Recognition: acceptance by one Authority of the qualifications or competencies issued by another Authority; the act of acknowledging or acceptance of the claim made.

1.3.2 **Abbreviations**

Abbreviations, and the meanings assigned to those abbreviations in this report are listed below:

Abbreviation	Meaning
ABTC	APEC Business Travel Card
APEC	Asia Pacific Economic Cooperation
ATC	Air Traffic Control
CVO	Commercial Vehicle Operators
EU	European Union
FC	Flight Crew (Cockpit)
I/LSM	Intermodal / Logistical System Managers
ICAO	International Civil Aviation Organization
IFALPA	International Federation of Airline Pilot Associations
IFATCA	International Federation of Air Traffic Control Associations
ILO	International Labour Organization
IMO	International Maritime Organization
LAME	Licensed Aircraft Maintenance Engineer
MRQ	Mutual Recognition Qualification
PRE	Professional Railway Engineer
Rn	Recommendation (number)
SARPs	ICAO Standards and Recommended Practices
TPT-WG	APEC Transportation Working Group
TTMRA	Trans Tasman Mutual Recognition Arrangement between Australia and New Zealand

1.3.3 **Recommendations**

Recommendations are included in the body of this report. They are identified by the inclusion of the annotation **[Rn]** after the appropriate text. A consolidated list of recommendations is provided in Section 5.

2.   MRQ MODEL DEVELOPMENT METHODOLOGY

Within the structure already developed in the context of the Stage 2 and Stage 3 elements of the project, including the associated report of survey findings, the following methodology was employed to:

➢ Develop a framework for preferred strategies which will assist in promoting the growth of mutual recognition; and

➢ Develop a mechanism or model to facilitate recognition.

Given that the task is to develop a model for the TPT-WG, the Ambidji Project Taskforce adopted the proactive attitude to the Model development of 'how can mutual recognition be achieved?' rather than 'what are the barriers that need to be overcome?'

The Taskforce was made up of transportation professionals who have extensive experience at senior levels of their respective area of the industry and who understand the macro and micro issues of their industry's qualification structures and competencies. Some of the Taskforce members have had experience working with international bodies in the transportation sector, such as the International Civil Aviation Organization (ICAO), the International Federation of Airline Pilot Associations (IFALPA) and the International Federation of Air Traffic Control Associations (IFACTA). The major activity of the Taskforce leading to this report was a face to face workshop. Members were well briefed on Stage 2 and 3 of the Report before the conduct of the workshop. Given the large fund of knowledge and collective experience, the Taskforce members all contributed to the workshop, using the group's synergies with a brainstorming methodology to achieve the objective.

2.1   Considerations

Before any model can be constructed, the elements that would influence the environment in which the recognition methodology would have to operate need to be explored, as they will impact on the model design.   Given both the fundamental purpose of APEC and its consensus and results oriented means of operation, the purpose of the model at all times is to focus on increasing economic benefit to the member economies and business and professional interests within those economies.

A very general comparison in this regard can be drawn with the 'APEC Business Travel Card' (ABTC). This allows the ABTC holder to obtain multiple short-term entries to participating APEC countries. The card also facilitates the quick passage of the holder through arrival and departure immigration formalities. The card is not universally recognised within the APEC community; however, as the benefits become more apparent to member economies and the appropriate national regulations and procedures are put in place, recognition is growing.

APEC, through the TPT-WG's three Steering Committees, already has several significant projects underway. These provide a clear perspective on the philosophical direction which underpins this harmonisation process. These include the Road Transport Harmonisation project.

These projects, whilst having specific problems to resolve and solutions to find, form significant directional indicators for this project as they can be considered to include issues such as:

➢ Bilateral recognition and acceptance of qualification;

➢ Common or agreed competency standards;

➢ Accreditation of training/education institutes/agencies;

➢ Transparency of recognition of qualifications;

➢ Database collation of existing recognition or reciprocity agreements; and

➢ Linkages to other international organisations or bodies, such as ICAO, ILO and IMO, for consistency of conventions and standards.

2.2   Issues

Key issues which will influence decisions about participation and the level and extent of mutual recognition of transportation professional qualifications, are:

- national sovereignty;

- workplace / operation safety of personnel and systems;

- border protection;

- security;

- economic impact; and

- specific national laws and/or regulations.

These issues need to be fully considered and they may invite identification of potential barriers to mutual recognition. However, if proactively addressed and resolved in a spirit of goodwill and cooperation, most will lead to the enhancement of economic outcomes through minimising potential losses (e.g. security and safety) and increasing economic performance and development.

A particularly strong influence is considered to be the demand, at the working level, for mutual recognition between Economies. At present the focus seems to be from the top down, (i.e. from the APEC forum), rather than being driven by direct demand. The Taskforce brought together by Ambidji considered that implementation of the framework will have a greater impetus and chance of success if it is driven by demand from the working level (i.e. by persons who are most keen to either hire or work in another economy).   Since the vast number of personnel will work at the lower end of the qualification spectrum, the model must be sufficiently robust to consistently service this sector as well as the more easily defined areas of tertiary institutional qualifications. Although the grouping of competencies and their precipitation into specific qualifications may currently differ between economies it is, however, highly likely that many of the competencies will be common. At all levels it is possible to derive a list of competencies that make up formal or academic qualifications. Therefore the focus needs to be on reducing qualification structure to the lowest common denominator of individual competency.

This means looking at the detail of the qualification with a transparency approach rather than with the current usage of the 'reciprocity agreement' or the ultimate goal of 'Full Harmonisation of Qualifications'. Although, in due course, full harmonisation could provide the greatest mutual recognition it is seen as a long-term developmental objective, which may

require significant dialogue and subsequent negotiations to achieve. This is principally due to the diversity of educational and training traditions in the economies.

This, then, would allow a robust Inter economy/Profession/Qualification transparency analysis.

The process used for the development of this report is described in more detail in Appendix B. Comments were sought from member economies. These were considered an essential element of the process. The comments received were valuable and have been considered within the overall APEC context to produce the final report.

2.3 Analysis Of Stage Two And Stage Three

As part of the preparations for Stage 4 a review of the reports of the preceding two stages was undertaken. Those stages of the project clearly define why mutual recognition is economically desirable for the region and focus, in particular, on the transportation sector. There is seen to be significant economic growth potential for the transportation infrastructure within the APEC region.

Having surveyed the six designated transportation professions (listed below) in the APEC Economies, the Stage 2/3 report identified the following key points:

Mutual Recognition of Qualifications [MRQ]
Envisaged facilitation of regional economic development by the mobility of transportation personnel.

Main Reasons for MRQ are:
Common land borders
Trans-regional trade routes
International standards harmonisation
Skilled labour shortages

Survey of 6 Designated Transport Professions
Intermodal / Logistical Systems Managers (I/LSM)
Professional Railway Engineers (PRE)
Commercial Vehicle Operators/Truck Drivers (CVO)
Air Traffic Control (ATC)
Flight Crew – (cockpit) (FC)
Licensed Aircraft Maintenance Engineers (LAME)
Result; 12 out of the 22 APEC Economies replied.

Major Harmonisation Issues
The key issues identified were verification of:
Training content
Professional standards e.g. Competencies
Several Models identified

APEC Region
Inter country
Inter profession

Other Regions
European Union (EU)

Methodologies for Mutual Recognition
Reciprocity Agreements
Harmonisation of Qualifications
Transparency of Qualifications

Guiding Principles
Comparable entry-level qualifications
Job description/s including clear statements of qualifications
Regulatory environment
Registration requirements attached to working in the field
The Canadian and European principles have been adapted for this project, for discussion by APEC member economies

General Procedures

Situate the qualification or licence within the framework
Identify the level and type of qualification/licence in the system
Determine whether similarities are sufficient for recognition to be granted
Practices in similar cases in order to ensure consistency in recognition practice.

Information Requirements
Documentation required and requirements related to the authentication and translation of relevant documents
The role of professional associations
The role of licensing bodies and educational institutions in the recognition process
Status of the recognition statement
Approximate time needed to process an application
Fees charged
Process for appealing decisions

Basic Principles for Implementation
Non-discriminatory
Transparent
Coherent
Reliable - consistent methodology
Diversity of educational and training traditions within APEC taken into account

The key issues to arise were:

- the training content; how wide is the learning, i.e. breadth

- the training standard; how strong is the learning, i.e. depth

This led the Stage 4 Taskforce to consider that the qualification and its associated training/learning should be measured by the learning outcomes, that is, the competency gained or equivalent knowledge obtained which can be criterion referenced. It should be noted that this has already become a process in several APEC economies and other regional structures.

In part 4 of the "Report on Survey outcomes" of Stage 3 (page 19), "International Perspectives on Recognition" the report commented on the issue of "Transparency of qualifications"

According to Bjornavold and Sellin[1]: Discussion paper 1997

> *The concepts of "recognition of vocational qualifications" and "comparability of vocational qualifications" have gradually been replaced by the somewhat less clear concept of "transparency of qualifications".… . Recognition implies the introduction of "supra-national" criteria potentially conflicting with the principle of national control over vocational education and training. "Transparency" on the other hand, points to the need to make national qualifications more visible and understandable to outsiders; the introduction of common standards is an unnecessary implication (p. 7).*

At all levels, it is difficult to definitively compare the qualification conferred by one academic institution with that conferred by another.

Consideration of the qualification and its associated training/learning could be measured by the learning outcomes whereby a framework of criterion, referencing competency gained or equivalent knowledge obtained, can form the basis of a model. This, then, provides a framework by whic "qualifications" can be accurately compared. It is noted that national "training" agencies in member economies are making increasing use of such "competency based" assessments. In order to determine these learning outcomes (competency gained or criterion referenced equivalent knowledge obtained), the individual qualification in each of the participating economies has to be analysed. This provides a transparent methodology.

It is recommended that a robust generic methodology using a Competency/Criterion referenced approach be the basis of a recognition model. **[R1]**

The Stage 2/3 report provides a coherent set of guidelines, principles and information requirements to ensure the successful administration of the project, taking into account the diversity of the educational and training traditions within APEC. It is also of interest to note that the Stages 2/3 report highlighted a preference between Economies for bi-lateral arrangements leading to mutual recognition. The model proposed below takes this preference into account and identifies it as a building block for wider use. The model will both facilitate bi-lateral recognition of qualifications and enhance the transparency of bi-lateral activities with significant potential to simplify subsequent multilateral recognition.

2.4   Additional Findings

2.4.1   De facto Recognition

The Taskforce considered that the detail reported in the Stage 2/3 findings, when taken with their individual and collective experiences, provided support to the conclusion that significant de facto recognition was already in place through other non integrated systems such as:

➢ International Driver's Permits

➢ Pilot/LAME in other ICAO contracting states

➢ Foreign licence recognition process in some APEC economies

All of these hold the Qualification of Origin as the source document and, by some form of 'agreed convention' there is recognition of some or all elements of the qualification submitted.

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[1] Bjornavold, J and Sellin, B, 1997, Recognition and Transparency of Vocational Qualifications: The Way Forward. Discussion Paper, CEDEFOP:Thessaloniki

These 'agreed conventions' can range from the Convention of International Road Traffic 1949 to the Convention on International Civil Aviation, 1944 (Chicago Convention) to mutual recognition agreement between economies or Professional association protocols.

Therefore it is necessary to differentiate between tacit 'acceptance of capability' versus 'recognition/endorsement of qualifications' which may or may not be evidenced by the granting of an equivalent licence by an economy.

2.4.2 ICAO

All APEC economies (except Chinese Taipei and Hong Kong, China) are Contracting States to the Chicago Convention which created the International Civil Aviation Organization (ICAO). That body serves as the medium for cooperation in all fields of civil aviation among its 187 Contracting States.

Technical Annexes to the Chicago Convention have been developed and enunciate Standards and Recommended Practices (SARPs). Contracting States are required to lodge a difference when they are unable to comply with an ICAO standard and invited to notify a difference to recommended practices. These differences are published within the appropriate Annex for the information of all States and, usually, in the national aeronautical information documents.

2.4.3 Licensed Aircraft Maintenance Engineers [LAMEs]

The argument can be made that compliance with the specifications of the Annexes to the ICAO Convention ensures appropriate minimum standards necessary for the safety of international air transport operations. Integral to these safety standards are, inter alia, the specifications of the training and experience standards required to be met by LAMEs.

The specifications of requirements for LAME license as provided in ICAO Annex 1 (Personnel Licensing) are very broad. Economies have, of necessity, chosen to develop their own more detailed specifications which, while satisfying the ICAO Annex specifications, has resulted in a wide range of approaches to the licensing of LAMEs. The approaches taken to the detailed specification of requirements to be met to obtain a licence in each economy do not readily permit direct comparisons and some requirements are somewhat arbitrary. The differences in the specified periods of validity of licences within economies are a simple but clear illustration of this.

The multiplicity of detailed specifications enshrined in various economies' aviation laws has complicated the matter of assessing the relative competencies of persons possessing licenses to perform the same work in a different economy. The matter is further complicated by the fact that the range of activities or privileges able to be exercised by LAMEs in various economies may also be significantly different. An example is the Avionics LAME licence category adopted by Peru, while other economies have individual Electrical, Instrument and Radio categories and additional endorsements for specified activities within those categories. Similarly, some economies have licences for LAME type activities performed in approved workshops while others rely on the workshop approval and approved workshop processes to achieve the same objective.

Notwithstanding the above, the range of tasks necessary for the maintenance of aircraft does not change materially between economies. For example, a LAME duly qualified in Singapore may be able to perform and certify as to the adequacy of maintenance on a particular type and model of a Singapore registered aircraft while an Australian LAME may do exactly the same on the same type and model Australian registered aircraft. However, neither is permitted to perform the tasks on aircraft registered in the other economy. The basic

requirement is the same in each case – to ensure that the requisite maintenance has been correctly performed and certified. It should therefore be possible to specify an appropriate range of competencies necessary for persons to exercise the privileges of LAME licences in many economies as the basic competencies demanded by the technicalities of the work already being performed are; if not exactly the same, at least equivalent.

2.4.4 Flight Crews - Cockpit (FC)

Another example of tacit 'acceptance of capability' of, rather than 'recognition/endorsement of qualifications', relates to Flight Crew. It is not unusual for an aircraft of one economy to fly between two airports in another economy as part of an international passenger service e.g. a Malaysian aircraft operating from Kuala Lumpur to Tokyo with an intermediate landing at Osaka. Such an aircraft could be carrying citizens of numerous economies particularly those of the points of departure and destination over the 'domestic' sector between Osaka and Tokyo. A Japanese aircraft (economy of origin) could also be flying on the same route in the same type of aircraft made by the same manufacturer; however, the flight crews could not fly each other's aircraft even if they were identically configured. This is because the economy of origin registers each aircraft, and at the present time there is not automatic recognition of another economy's flight crew licences. The fact that flight crews can fly in other economy's airspace as described above is a manifestation of de facto recognition by 'accepting the capability' of the flight crew under an 'agreed convention' i.e. ICAO. However, this does not confer 'recognition/endorsement of qualifications' as the flight crews are not permitted to fly any aircraft for which they are 'type rated' regardless of 'the origin of its registration'.

3. FRAMEWORK FOR RECOMMENDED PRACTICES - COMPETENCY BASED OR CRITERION REFERENCED RECOGNITION

The traditional concept of mutual recognition relates to the acceptance of qualifications earned in one country and transported to another because of migration of the holder. There is another dimension, which must be considered. There is a very practical need for an employer in one country to be able to determine the degree of equivalence of qualifications held by transportation professionals in another country. An example is the need to select staff who will handle cargo on arrival following export or who will perform maintenance operations remote from the country of registration or origin of specialised transport vehicles or an aircraft. The acceptance of a national regulator's approval, either by the issue of a 'licence' or the granting of an 'approval' may be appropriate in some circumstances, for example the performance of maintenance operations; however, in others, such as specialised transport of dangerous, exotic, or perishable cargoes, it may be appropriate or necessary, that they understand and be able to relate to the competencies which support those qualifications.

This reinforces the concept that the recognition framework should be based on competencies rather than formal qualifications.

An understanding of the competencies, which are the basis of one country's qualification for a particular profession, and assessment of those competencies against the equivalent competencies for the assessing country's qualification will identify differences. There are two issues, then, for resolution. One is in the correct identification of the competencies and the other is in the identification of a means of resolving the differences.

By establishing the range of competencies gained by persons and by establishing the differences and redressing same between economies, it becomes a very difficult argument to suggest that someone who has the basic competencies and has gained the competencies that are the 'shortcomings' between the two does not really have the ability to do the job in the other economy.

Several of the APEC member economies, as well as other countries and regional groups, have developed nationally or regionally based schemes of competencies, which are related to academic and/or professional qualifications. These would need to be considered to determine a common core set of competencies for consideration in the mutual recognition of qualifications throughout APEC. Such a document would have much wider application since the framework is industry non-specific and would thus provide a neutral framework for nearly all, if not all, occupations to use. The framework would then function as a lexicon for the comparison of competencies from different economies.

When the differences in competencies associated with a particular qualification between two or more APEC member economies are known, it will then be possible to address the variations. Because these will be identified as competencies and described in a common format, the remediation means should be readily apparent. It is envisaged that, during the implementation process, a number of common 'variations' will be identified. Ideally, this should lead to the inclusion of many of these competency elements in the competencies considered in the award of a particular qualification across several, if not all, of the APEC economies. This will improve the rate at which mutual recognition occurs, as the degree of difference between the competency requirement of two or more economies for a particular qualification will reduce.

The focus on competencies also means that not only is agreement facilitated but also there is likely to be a broader applicability identified (i.e. not just a specific qualification) and the benefits of mutual recognition thereby increased.

Project Taskforce team members considered this process could, in turn, lead to the offer of specific and directed training for many of the more commonly missing competencies. Again, this will improve the rate at which mutual recognition occurs.

With a competency comparison the common competencies and differences would be readily identified. With these competencies identified and linked, an across economy / Profession analysis would group the differences into either **site specific** or **core knowledge** categories.

Site specific issues would include such issues as local laws/regulations, geographic issues, cultural and linguistic factors. With these identified they can be addressed as a qualification conversion or 'localisation' of a recognised qualification.

Site specific issues will be very significant in highly regulated transport sectors such as aviation. Aviation laws require that LAMEs, for example, have specific knowledge of the laws governing the range of activities that may be undertaken by the holder of a specific licence, their obligations to the Aviation Regulatory Authority, the methods to be used to certify maintenance actions and others. The responsibilities placed on licensed persons, and the obligations placed on Aviation Regulatory Authorities to ensure that persons granted a licence are competent to discharge all of the obligations placed on them, are such that it is inevitable that there will be economy specific factors that must be addressed.

The other differences identified can then form a block of competencies that the economy of origin, or the economy of recognition, can address as a core-training requirement. The training to provide the missing competencies can be provided either:

➢ From within the qualifying economy

➢ From within the 'recipient' economy, or

➢ By a training organisation external or common to both economies.

With these clearly defined learning outcomes if an economy of origin or individual can show that these learning outcomes (competencies) can be demonstrated then the qualification differences can be diminished and the pathway to recognition expedited. For a specific example see Appendix (A).

It is recommended that APEC

a. adopt the MRQ Model developed in this report and

b. use this model to conduct a prototype implementation project to analyse and tabulate in a database format the competencies of the designated Transportation Professions. **[R1]**

This will permit the methodology to be proved and the process validated (and refined as necessary) as a precursor to wider implementation.

3.1 Qualification Development

The earliest possible agreement on the detail of the generic competencies in particular qualifications is fundamental to the success of the harmonisation objective. Consistency in any new qualification development is essential. Consequently, definition of the scope and relevant competencies of any new qualification development should be the subject of timely consultation / collaboration between economies.

As an example, the ICAO Training Organization cooperation programme '*Trainair*' has made the consistency of methodology for qualification/training course development, a baseline in its structure.

It is recommended that as part of any implementation of this project serious consideration be given to the successful models of recognition and / or definitions of competencies in other regions [eg Europe] and, if appropriate, elements of these be adopted within APEC, following any necessary modifications. **[R2]** It is considered that these could facilitate the development of Quality Assurance / standard checking processes.

4.   MRQ MODEL CONCEPT

A possible model could be a form of recognition 'which does not require extensive prior harmonisation of qualifications across borders', but rather relies on establishing broad equivalence and customised recognition. It is a process whereby recognition is not automatic but is based on appropriate compensatory requirements, underpinned by mutual trust and mutual monitoring[*].

A three dimensional matrix model (Fig 1) was developed using the axis of economy, profession and competency as a means of identifying the transparency of the qualification.

This three dimensional matrix model allows for a clear comparison between the economies, professions and qualifications by establishing fixed points of reference by which to measure commonalities and differences and so achieve the required transparency of the qualifications being analysed.

An example would be a comparison of two intermodal / logistic system managers (the Profession) in two different economies (the Economy) by comparing their competencies within their qualifications (the Competence). The Profession/Economy axis provides a two dimensional base from which the competencies can be compared and comparable or equivalent competencies as well as differences identified.
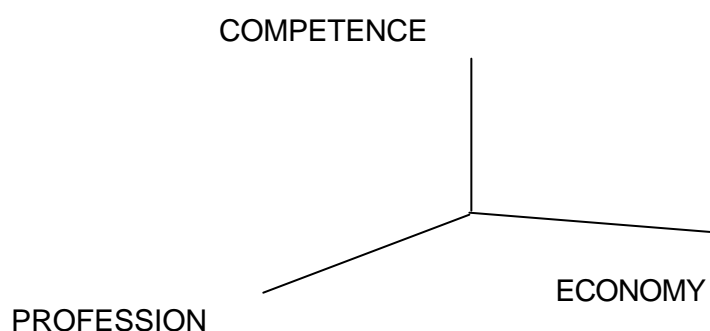

Figure 1: Three dimensions of Qualification Recognition

The Mutual Recognition of Qualifications model has a two-part process:

1)   Each economy involved would have to agree upon a common definition of each of the competencies that are under consideration for recognition. This approach has so far produced few positive results, thereby precipitating this project to explore a useful way to encourage economies to work together.

2)   Each economy involved can then determine:

- what the common competencies are,

- what differences may be apparent, and

- how the economy could resolve those differences.

As an example, consider the case of a commercial vehicle operators (CVO) or truck drivers (the profession) from two economies (the Economy) where the comparison of skills (the Competencies) could be compared analytically.   This comparison would detail the commonalties and differences between their respective competencies.   The obvious

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[*] Nicolaidis, Kalypso, Managed Mutual Recognition: the New Approach to the Liberalisation of Professional Services, John F Kennedy School of Government, Harvard University, 1997.

differences would include the site specific ones such as local road traffic laws e.g. road speed and weight limits. The core competencies may differ when operator skills are compared eg does the economy require a specific skill demonstration (test) for backing (reversing) of an articulated vehicle in the licence examination or night driving?

Once the differences are determined, action can be taken to identify means of addressing the deficiencies in competencies or qualifications and the process of mutual recognition can proceed.

A further example would be that of determining the competency of a LAME from an economy (eg Vietnam) who is seeking recognition in another economy (eg Philippines). The LAME would submit evidence of the competencies contained within his/her qualifications training to the appropriate Philippine recognition authority. They in turn would compare these competencies to that of their own qualification and establish what is common and if there are any differences. Once these parameters are established then the competencies in common can be tabulated and recognised and the differences evaluated as to whether they are sufficiently significant to warrant further examination as to suitability for recognition or resolved possibly by requiring a form of remediation or reconciliation.

A significant requirement which must be considered for specific economies to recognise qualifications issued by others, particularly with aviation related professions, is the need for security vetting. This has become more critical since September 11, 2001 and was the subject of specific comment by one of the member economies which provided comment during the development of this report.

Over time, the specific determinations can be used to populate the APEC MRQ database and the process, then becomes progressively simpler and more transparent.

It is recommended that the model use a matrix approach based upon the 3 axis of Competency / Criterion reference, Profession and Economy as described above to create an APEC wide database. **[R3]**

5. MRQ IMPLEMENTATION

5.1 The Implementation Process Model

The MRQ model recommended by the Taskforce could be implemented in accordance with the process shown in Fig 2 (below).

```
                    PREPARE

                    COLLATE

          COMPARE            ADDRESS

          DOCUMENT

          CONSULT

                              MONITOR

          FUTURE PROOFING
```
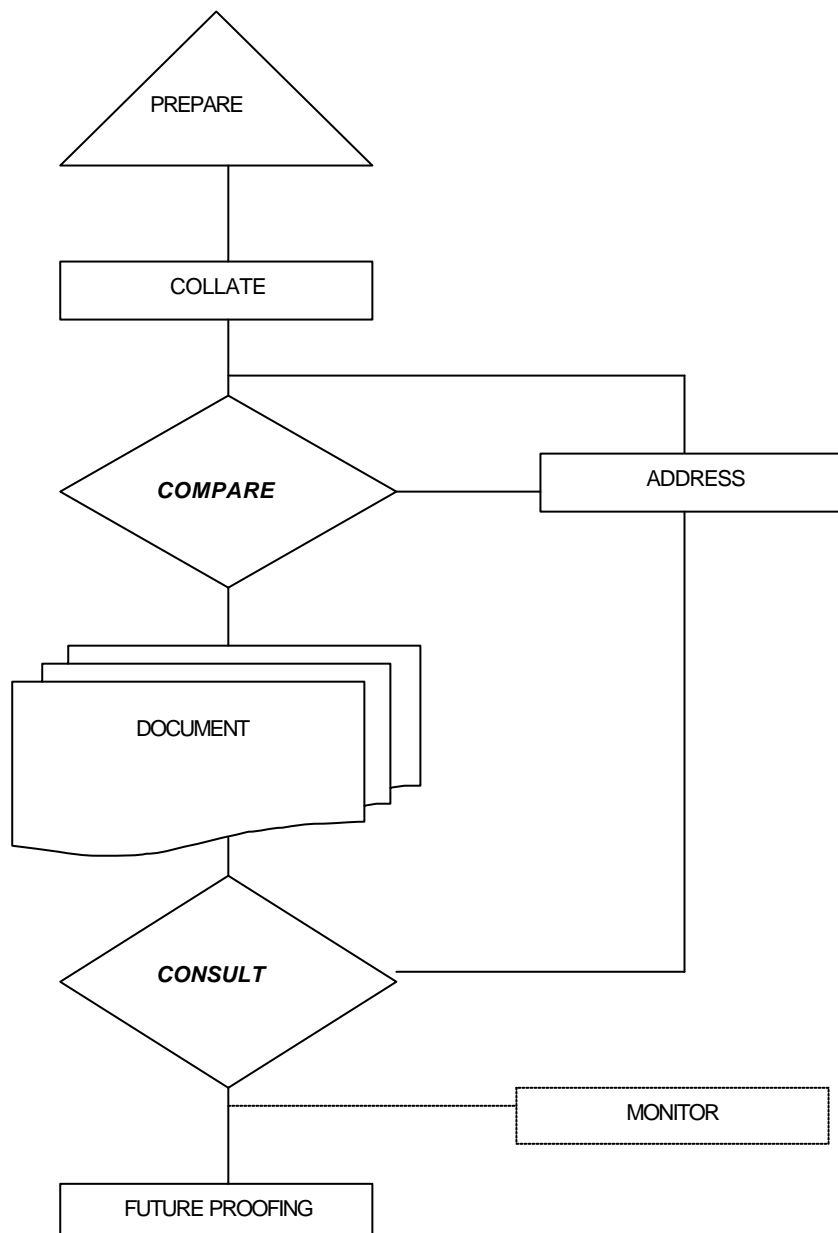
Figure 2: Mutual Recognition Process Model

Prepare - a core set of competency descriptions for use in all APEC economies

Collate - List the competencies required, by qualification, by economy (where possible this should take advantage of global or other regionally agreed criteria)

Compare - determine and categorise the differences between two (or more) economies. This is a validation function.

Address - the identified differences by training, or changing the list of required competencies.

Document - the process and the three dimensional matrix of competencies by professional qualification, by economy and origin by economy of desired recognition. This should also include making the information available for individual professionals or professional organisations to use for comparison purposes

Consult - A critical stage in the implementation will be discussions with the relevant staff of the 'Education' ministries to determine the extent of development of a national framework of core competencies and to progressively develop the APEC set of core competencies.

Implement - The actual implementation of the comparison of qualifications for recognition will involve both industry led and individual strategies. The first strategy (industry led) will be motivated by an industry in an economy that is seeking additional professionals to work in that economy as a result of, or a planned precursor to, economic growth. The second strategy (individual) will involve an individual professional who is seeking to relocate to another economy where there is a demand for his/her qualifications.

Monitor - the situation to ensure changes are recognised, documented and translated into action to expand recognition. This is an audit process.

Future proofing - The model should envisage that where a curriculum of any new qualification is being developed by an economy, other economies are invited to review and comment to move 'towards mutual recognition' at inception.

There is also a need to monitor to see whether the process has been effective. This may involve specific tracking of the performance of licence holders from other economies.

That then leaves the compliance of teaching/training and testing/examination as the outstanding 'technical' consideration, which can be managed by independent assessment or accreditation.

Political, industrial and social impediments would still need to be resolved. These non educational structural barriers that may impede implementation relate to:

- Government policy on immigration and/or residency status

- Social issues

- Industrial issues

These have not been considered in the development of the MRQ framework, as they are external to the process of a professional qualification recognition framework. Once a workable recognition framework is in place, these issues may be more easily resolved.

5.2   Implementation Methodology

Simply producing a framework and model will not ensure implementation proceeds. Initially it will be necessary for the TPT WG to proactively manage the implementation process [Stage 5]. Issues, which may be considered, include implementation schedules both at member economies and APEC TPT-WG levels with agreed target duration / dates and an agreed implementation review program.

A successful pilot [proof of concept] project is recommended as a precursor and encouragement to widespread implementation across professions and economies. **[R4]**

5.2.1 **Program**

It is therefore considered prudent for the implementation process to be conducted as a two-phased process:

- Phase 1 <u>Proof of concept</u>

  ➢ Develop the initial 'Register of Mutual Recognition and Process';

  ➢ apply the MRQ Model to a selected target transportation profession;

  ➢ refine the MRQ Model if necessary.

- Phase 2 <u>Implement </u>the refined model for remaining target professions.

- Phase 3 <u>Extend </u>the implementation to other professions.

5.2.2 **Register of Mutual Recognition and Process**

An essential element, and a key deliverable, of the implementation phase will be the Register of Mutual Recognition and Process. This will clearly document, in a simple but formal manner:

- Where mutual recognition has already occurred;

- The essential elements of that mutual recognition;

- The process and means of recognition; and

- The means of expanding that recognition.

This document, in its initial content, will draw on the data available from the Stage 2 and Stage 3 reports and should be in the format suggested by the model. It can be expanded to include additional data from the Stage 4 work. It is envisaged this document will form a dynamic record (living document) for, use by the TPT WG to maintain visibility of APEC mutual recognition activities in the transportation arena. Additionally, this refined process and documentation will be available for other sectors wishing to engage in mutual recognition of professional and, perhaps, other qualifications.

It is recommended that the APEC Secretariat consider providing a link to theRegister from the APEC TPT-WG website: http://www.iot.gov.tw/apectptwg/. **[R5].**

Additionally it is recommended that the TPT-WG review the Register of Mutual Recognition Process and the associated database at each meeting. **[R6]**

5.3 **Standardisation**

Consistent delivery of any of the competencies required in the performance of the functions of the transportation professionals is essential to delivery of safety and service. It is axiomatic that safety monitoring systems, if not already in existence, will be developed to give effect to this requirement.

Where current standards within the APEC region exceed international standards and requirements [eg ICAO SARPs], consideration should be given to adoption of the former as an agreed regional overlay.

5.4   Quality Assurance

This report focuses on transparency as the basis of the mutual recognition process; however, the quality assurance aspects of training to, and (where appropriate) examination of, the competencies are fundamental to acceptance and therefore progressing 'towards mutual recognition'. Most, if not all, academic and technical training institutions now subscribe to some form of quality assurance processes as part of their activities.

Quality Assurance, in this context, may be achieved by 'mutual definition' of desired training and education processes and the use of accreditation by a neutral body. International quality accreditation agencies or a regional development could provide this standardisation. For example, an extension of the ICAO Safety Oversight Program could provide the basis for professions such as LAME, ATC and FC.

5.5   Accreditation of Educational Institutions

The Stage 2/3 report includes the following Criteria for Evaluation of Educational Institutions and Programs. If these are used then the criteria provides a solid framework to ensure that any accreditation system implemented would be 'fit for the purpose', bearing in mind the project's fundamental rationale of the harmonisation of qualifications.

1)   In view of the wide diversity of educational institutions, the status of a qualification should not be established without taking account of the status of the program and institution at which the qualification was earned.

2)   Recognition should only be considered for education attained through recognised institutions. A recognised institution is one that has been formally recognised by an accreditation agency or professional body in an economy and/or that is widely accepted by other institutions and agencies inside or outside the economy.

3)   A qualification should be recognised only if the related program is also recognised by the accreditation agency or professional body. Recognition of an educational institution does not guarantee the recognition of all qualifications issued by that institution.

Sample criteria to be applied to determine the outcomes of an educational or training course include:

a)   entry requirements (eg: what are the normal admission requirements for entry to the program? What is the level of studies in the home economy? Are there prerequisites for entry to the program?

b)   does the economy have skill standards and/or a qualification framework in which to place the level of the program?

c)   are there international standards on which the program is based? (how closely is the course aligned with those standards?)

d)   structure of the program (eg: how is the program structured? What type is it, such as vocational, academic?)

e)   teaching and learning facilities (eg: are these adequate to meet the needs of the curriculum and industry?)

f)   contents of the program (eg: are there clear statements on the knowledge and skills required?)

g)   assessment requirements (eg: are there grades? What is the proportion of practical and theory assessment?)

h)   full-time (or equivalent) duration of study program.

6. RECOMMENDATIONS

The Taskforce makes the following recommendations

Rn	Recommendation	Page Ref
1	That a robust generic methodology using a Competency/Criterion referenced approach be the basis of a recognition model, which can be used to conduct a prototype implementation project to analyse and tabulate (in a database format) the competencies of the designated Transportation Professions and as a methodology proving and process validating project..	15
2	That serious consideration be given to the successful models of recognition in other regions and, if appropriate, adopting them following any necessary modifications.	20
3	That the model uses a matrix approach based upon the 3 axis of Competency/Criterion reference, Profession and Economy as described in this report.	22
4	That a successful pilot [proof of concept] project be recommended as a precursor and encouragement to widespread implementation across professions and Economies.	25
5	That The APEC Secretariat consider providing a link to the Register of Mutual Recognition and Process database from the APEC TPT-WG website: http://www.iot.gov.tw/apec_tptwg/	25
6	That the TPT-WG review the Register of Mutual Recognition Process and the associated database at each meeting.	25

7. CONCLUSION

1) The Recognition model should focus on competency based criterion referenced as the base line for all recognition comparisons.

2) The Recognition model should be generic enough to cater for the widest possible application. Although the range of professions (in this case, transport) is diverse, the model will be successful if it is carefully constructed to enable a broad range of applications. Once successfully implemented in the selected (limited) range of professions, the concept can then be successfully extended to others.

3) The proposed matrix approach of Competency/Criterion referenced, Profession and Economy (of origin) consideration provides a versatile and robust trans-occupational analysis capability.

4) APEC is already undertaking an ad hoc process of recognition in an ad hoc manner in several fields of transportation and individual areas of expertise. These have occurred when the lack of qualification recognition in these fields has been identified as an impediment to economic growth in a micro-scale sense. These attempts are not generally recognised as formal elements of this project; however, they can be used to extend the overall project coverage.

5) There is a significant amount of de facto recognition in existence already with the Region and APEC functions. The formalisation of these is reasonably straight forward and not problematic in structure.

6) Key issues such as those listed below are significant influences to participation in the process of mutual recognition and may be potential barriers.

   - national sovereignty,
   - workplace/operation safety of personnel and systems,
   - border protection,
   - security and economic factors
   - Economy specific laws/regulations.

7) Economic drivers will produce a 'bottom up' approach and will encourage participation based upon economic demand/growth rather than a 'top down' solution involving regulatory compliance, as is the case in the European Economic Community model.

APPENDICES

APPENDIX A

COMPETENCY BASED OR CRITERION REFERENCED RECOGNITION EXAMPLE:

Appendix A
Example of Competency Based or Criterion Referenced Recognition

This process can be demonstrated by an examination of the situation with respect to the New Zealand Civil Aviation Authority's recognition of a foreign Air Traffic Controller Licence (ATCL).

The following competencies have been identified as requiring specific New Zealand qualification before an Australian qualified and licenced ATC professional can be granted a New Zealand ATC licence:

1. New Zealand Air Law,

2. equipment;

3. operating procedures; and

4. Human Factors in the ATS Environment.

Subjects 1, 2 and 3, which are site specific and require examination in New Zealand for all foreign applicants. Applicants may be exempt from Subject 4 [a core competency] subject to supplying proof that an equivalent course of study has been completed elsewhere.

In the mature MRQ process these requirements would be readily obtained by reference to the database documentation for 'ATC profession, Australia to New Zealand' matrix in the Register of Mutual Recognition.

APPENDIX B

PROCESS

Appendix B

Process

The Ambidji project core team worked as a Taskforce. Membership consisted of highly experienced experts in each of the professions for which mutual recognition is planned. Each Taskforce member has international experience and contacts, particularly in several of the APEC economies, and a combination of practical experience throughout the region, senior management experience and academic influence.

In summary form, the methodology involved the use of Ambidji's approach to:

- Analyse examples of successful mutual recognition to determine the common elements and, of those elements, those which contribute to the success;

- Determine means of mitigating, to the greatest extent possible, the barriers and impediments to mutual recognition revealed as part of the Stage 2 and Stage 3 study and analysis;

- Develop a robust framework for mutual recognition based on the outcomes of the previous steps.

This methodology was selected, following review of the Stages 2/3 report findings and recommendations, to achieve maximum efficiency in achieving the stated goals of the project and ensuring that additional (value added) elements are provided as part of the agreed deliverables.

Although there is a need to recognise differences in the professions being considered (and the economies in which they operate throughout the region), it is possible to refine these differences to arrive at a coherent framework which provides, as far as possible, a common approach to the recognition process. This ensures additional value to the project in providing a model and framework, capable of application to other professions or industries, in addition to specific details as required by the project Steering Committee for presentation to the APEC TPT WG.

The nominated team provided appropriate inputs to the project and also tapped selected external resources. These (external) resources were drawn mainly from government, academic institutions, professional organisations and 'trade' associations. All these organisations have a vested interest in the outcomes of the project and therefore made very positive contributions to the project, adding value to the inputs of the nominated experts. [Mike to add in]. Given the wide range of APEC member economies and cultures and the frequent reference to professional qualifications in the Stages 2/3 questionnaire responses, an early imperative of Stage 4 of the project was to clearly baseline the professional qualifications and international standards applying to those activities. Terms and abbreviations used have been clearly defined and documented. These project elements ensure there is a common understanding of the basis upon which recognition should be based. This understanding can be extended beyond project team members to officials and organisations that will be engaged in activities leading to mutual recognition. Ambidji's experience in similar, multi disciplinary and multi economy and cultural studies has shown that the effort in successfully achieving this step early in the project, pays manifold dividends in the latter stages of the project.

The aim has been to develop a model concept capable of universal application.

Stage 4 activities fit into the overall project framework as follows:

Stage 1: Preparatory Work for Consultation and Scoping

Stage 1 (April - November 1999) was undertaken by Australia in consultation with project cosponsors: Canada, Indonesia, New Zealand, and the USA.

Stage 2: Information Gathering through a Survey Questionnaire during early 2000

The results of the individual responses to the questionnaire was published in a report with an electronic copy being placed on the APEC TPT-WG website (http://www.iot.gov.tw/apec_tptwg/). This report was reviewed and studied in depth as part of the initial Stage 4 project activities.

Stage 3: Analysis of Questionnaire Results

This was undertaken by the consultant engaged to construct and administer the questionnaire. A report, summarising the survey results and providing details of the analysis was prepared and presented to the TPT WG for consideration at its 18th meeting, held in October 2000 in Miyazaki, Japan. This report also includes discussion on barriers and impediments to mutual recognition and recommendations on best practice for mutual recognition, based on survey responses and overseas experience both within and external to APEC.

The details of that report, particularly the recommendations and current examples of mutual recognition, provides an excellent basis upon which to commence the development of the framework for mutual recognition for the professions selected for the project.

Stage 4: Framework for preferred strategies

Based on the data and information from Stage 2 and Stage 3 of the report, a framework for preferred strategies is to be developed that leads to implementation of Mutual Recognition of Qualifications. The framework needs to be constructed with a positive focus as a user-friendly mechanism for both individuals and member economies. It has to be seen as, and operate as, an open door to economic development and not an impediment or barrier.