

行政院所屬各機關因公出國人員出國報告書
(出國類別：出席國際會議)

民國 106 年 8 月

亞太經濟合作(APEC)
「數位時代人力資源發展高階政策對談」及
第二次資深官員會議(SOM2)期間
「人力資源發展工作小組」相關會議
會 議 報 告

服務機關：國家發展委員會
職稱：副主任委員
姓名：龔明鑫

服務機關：國家發展委員會
職稱：處長
姓名：林至美

服務機關：國家發展委員會
職稱：處長
姓名：張惠娟

服務機關：國家發展委員會
職稱：專門委員
姓名：賀麗娟

服務機關：國家發展委員會
職稱：專員
姓名：李葳農

服務機關：國家發展委員會
職稱：專員
姓名：黃毓芬

服務機關：勞動部
職稱：專門委員
姓名：林永裕

服務機關：勞動部
職稱：科長
姓名：黃耀滄

服務機關：勞動力發展署
職稱：副署長
姓名：蔡孟良

服務機關：勞動力發展署
職稱：科長
姓名：廖貴燕

服務機關：勞動力發展署
職稱：科長
姓名：楊文治

服務機關：勞動力發展署
職稱：助理研究員
姓名：陳厚任

服務機關：教育部
職稱：副司長
姓名：藍先茜

服務機關：教育部
職稱：副參事
姓名：陳寶鈴

服務機關：銘傳大學
職稱：國際副校長
姓名：劉國偉

服務機關：臺北市立大學
職稱：教授
姓名：何希慧

服務機關：臺北科技大學
職稱：組長
姓名：林彥良

服務機關：臺北科技大學
職稱：專任助理
姓名：陳俐璋

出國地點：越南 河內市
會議期間：106 年 5 月 11 日至 19 日

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壹、 人力資源發展高階政策對談會議

一、 預備會議

(一) 會議時間：106 年 5 月 13 日（星期六）

(二) 會議地點：越南河內國際會議中心（NCC）

(三) 與會人員：

國家發展委員會林處長至美

國家發展委員會黃專員毓芬

勞動部 林專門委員永裕

勞動部 黃科長耀滄

勞動力發展署蔡副署長孟良

勞動力發展署廖科長貴燕

勞動力發展署楊科長文治

勞動力發展署專案團隊陳助理研究員厚任

(四) 會議議程：（見下頁）

**PREPARATORY MEETING FOR HIGH LEVEL POLICY DIALOGUE
ON HUMAN RESOURCES DEVELOPMENT IN THE DIGITAL AGE
AGENDA**

Room 347, National Convention Centre, Ha Noi, 13 May 2017

- | | |
|---------------|---|
| 08:30 – 09:00 | Registration |
| 09:00- 09:30 | Opening Remarks
- Mr. Doan Mau Diep, Vice Minister of MOLISA, Viet Nam
- Mr. Malcolm Greening, Assistant Secretary, Dept. of Employment, Australia
- Prof. Dong Sun Park, HRDWG Lead Shepherd |
| 09:30 – 09:45 | Group Photo |
| 09:45 – 10:00 | Coffee Break |
| 10:00 – 11:30 | <u>Session 1.</u> Briefing on Outcomes of the Workshops on Labour Market Information on 11 May 2017 and the Workshop on Social Protection on 12 May 2017
<u>Chair:</u> Ms. Le Kim Dung, Director General, ICD, MOLISA, Viet Nam
<u>Co-Chairs:</u> Prof. Dong Sun Park, HRDWG Lead Shepherd

Mr. Dao Quang Vinh, ILSSA, MOLISA Viet Nam
Mr. Nguyen Quang Viet, NIVT & Ms. Nguyen Thi Lan Huong, ILSSA, MOLISA Viet Nam

Q & A |
| 11:30 – 12:00 | <u>Session 2.</u> Discussions on the consolidated text of the Draft APEC Framework on Human Resources Development in the Digital Age
<u>Chair:</u> Ms. Le Kim Dung, Director General, MOLISA, Viet Nam
<u>Co-Chairs:</u> Mr. Malcolm Greening, Assistant Secretary, Dept. of Employment, Australia
<u>Presenter:</u> MOLISA Viet Nam |
| 12:00 – 13:30 | Lunch |
| 13:30 – 15:00 | (Cont.) Discussions on the consolidated text of the Draft APEC Framework on Human Resources Development in the Digital Age |
| 15:00 – 15:15 | Coffee Break |
| 15:15 – 16:15 | (Cont.) Discussions on the consolidated text of the Draft APEC Framework on Human Resources Development in the Digital Age |
| 16:15- 17:00 | Preparations for the HLPD (agenda & logistics...)
Ms. Ha Thi Minh Duc, DDG, ICD, MOLISA Viet Nam
Q&A |
| 17:00 – 17:30 | Closing remarks
Ms. Le Kim Dung, DG, ICD, MOLISA Viet Nam |

(五) 會議紀要

本場預備會議重點討論聚焦在會後將採納的「數位時代人力資源發展架構(草案)」內容，並說明 5 月 15 日高階會議的議程及會議進行方式。

1. 本次會議由 HRDWG 總主席韓籍 Prof. Dong Sun Park，CBN 正副協調人蔡副署長孟良及廖科長貴燕、越南勞動、榮軍及社會事務部(以下簡稱 MOLISA)次長 Doan Mau Diep、澳洲就業部副主任秘書 Malcolm Greening、LSPN 協調人 Mary Morola 擔任共同主席，旨在就數位時代下人力資源發展高階政策對話部長會議進行籌備會議。會議首先邀請越南 MOLISA 次長 Mr. Doan Mau Diep 及 HRDWG 前任勞動及社會保障分組(LSPN)協調人澳洲籍 Mr. Malcolm Greening 擔任開幕致詞，續由 MOLISA Mr. Dao Quang Vinh 報告 5 月 11 日「未來工作與勞動市場變遷工作坊」主要成果，Mr. Nguyen Quang Viet 報告 5 月 12 日「技能訓練教育與社會保障工作坊」主要討論成果。
2. 接著由越南 MOLISA 處長 Ms. Le Kim Dung 及 HRDWG 前任勞動及社會保障分組(LSPN)協調人澳洲籍 Mr. Malcolm Greening 共同主持「數位時代人力資源發展架構(草案)」修訂討論。
 - (1) 越南先說明倡議數位時代之人力資源發展架構(草案)的背景，並引用 2015 年 ILO 在國際勞工大會，發起的「未來工作百年方案」，說明此方案在人力資源的開發議題上，提供了實用的分析框架。ILO 明確指出當今和未來全球工作會面臨挑戰的 3 個影響要素，分別為：
 - A. 由機器智能化、計量能力和數位化帶來的科技革新
 - B. 全球化及逐漸增加產業鏈合作與分工模式
 - C. 僱用關係的轉變、弱勢勞動的增長及伴隨勞動力市場體制下

產生的性別差距

另外，也要注意到弱勢勞動人口，如自營作業員和家庭勞動者之比例，在東南亞和太平洋地區占就業者比率，仍達50%以上，而在東亞則趨近40%。高勞動力密集產業，如汽車工業的從業人員，將面臨因生產線智能化與自動化帶來的風險。根據聯合國的報告，失業率對不同人口群體的影響有所差異，女性和青年會比男性和成年人更容易遭到失業。而在幾乎所有地區，青年的失業率都是成年人的兩倍之多。

- (2) 越南邀請各經濟體，針對工業 4.0 對工作型態的衝擊、應運而生的技能教育與訓練需求及社會保障措施等層面進行研商，並提出「數位時代人力資源發展架構」，因依 ILO 報告顯示，越南因就業市場高度依賴勞動力密集產業，預估有 70% 的勞動人口面臨工業自動化的衝擊，其他 APEC 經濟體亦面對不同程度的風險。此架構歸納出 3 個優先項目並提供建議的行動方案，並將目標設定為展現 APEC 在人力資源發展領域中，強化合作的承諾並注入活力，實現「永續、創新和包容性增長」，為 APEC 區域提倡一個共享的未來，故此架構需能建構一個全面且能共同合作的方法，以適時適當地回應數位化時代對於勞動力轉型的衝擊，也關注 APEC 成員國在經濟、社會和文化多樣性和自主性。
- (3) 越南表示此架構會著重在 APEC 經濟體的人力資源發展，為 APEC 各經濟體提供指引，處理各式各樣的挑戰，和運用科技和未來工作所帶來的機會。此 3 項優先議題分別為：「未來工作在數位時代和勞動力市場的影響(Future of work in the digital age and labour markets implications)」、「技能、教育和培訓(Skills, education and training)」及「社會保障(Social protection)」。

3. 有關「數位時代人力資源發展架構」重要討論方向與各主要經濟體立場，摘述如下：

- (1) 越南為今年主辦經濟體，先感謝與會經濟體包括澳洲、新加坡、泰國、美國及我國提供數位時代之人力資源發展架構(草案)的修訂建議。最終採納我方建議包括，將培育數位人才的範圍，從原先的工業 4.0，擴及到現在已有廣泛討論的「電子商務」與「數位貿易」，並建議應注意新的商業型態(new business model)對於產生新就業機會的影響；另建議應透過此架構，增加跨工作小組的合作，諸如 ECSG, GOS, PPSTI 等。另外，越南也強烈表達數位時代之人力資源發展架構(草案)，能夠成為今年高階政策對談的正式會議成果文件，在提交到資深官員會議採納後，最終能成為今年非正式領袖會議成果之一。
- (2) 澳洲亦表示樂見越南倡議的數位時代之人力資源發展架構(草案)，表示各經濟體應關注數位科技快速發展，對於未來就業型態可能造成的影響，同時舉澳洲今年推動的「APEC 勞動力跨境移動架構」為例，認為理解數位科技發展對於未來勞動力移動的影響，也是優先議題之一。
- (3) 美國雖感謝越南對此項倡議的努力，但認為美國需要更多時間去檢視此項高階政策對談後要採納的文件。對於數位時代之人力資源發展架構(草案)的內容沒有提供修正意見。
- (4) 中國大陸、韓國、印尼、馬來西亞、菲律賓及我國均於現場發言提供文字修正意見。會後越南請澳洲協助進行文字潤飾，並於當日晚間 10 時提供修正後版本，交由 HRDWG 成員進行檢閱，並於隔日(5/14)上午 8 時提供修正意見。僅我方與美國提供修正意見。

4. 越南說明 5 月 15 日「數位時代人力資源發展高階對談」會議議

程與會務安排，討論重點包括：

- (1) 關於高階政策對談會議進行方式，上午場將安排越南副總理 Mr.Vu Duc Damg 出席，並做專題演講，越南 MOLISA 部長 Mr.Dao Ngoc Dung 發表歡迎演說，並擔任數場次主持人，其他重要出席來賓為 APEC 秘書處執行長 Mr. Alan Bollard，世界銀行經濟學家 Ms. Wendy Cunningham，ILO 亞太區辦公室副主任 Mr.David Lamotte，墨爾本皇家理工大學校長 Gael McDonald 教授等進行開幕致詞與專題演講，續由各經濟體代表登記發言。下午場次將安排兩場對談，希望呈現「多方利益關係人」共同研討政策方向的模式，對談成員組成包括經濟體代表、企業代表、勞動代表/訓練機構代表及政策評論員，所設定的主題分別為：

- A. 「未來工作與勞動市場變遷暨社會保障(The future of work, labor market implications and social protection in digital age)」，本場次由 HRDWG 總主席 Prof. Dong Sun Park 擔任主持人。本場次的經濟體與談代表為巴紐 Ms. Mary Morola(Head of Department, Labour and Industrial Relations)及澳洲 Mr. Malcolm Greening (Assistant Secretary, Dept. of Employment) 與企業界代表 Mr. Nicholas Haber(Director, STEM & CTE, Certiport A Pearson VUE Company)和勞工代表 Mr. Dang Quang Dieu(Director, Policy Department , Viet Nam General Confederation of Labour)進行對談，並由 Mr. Emmanuel San Andres(the APEC Policy Support Unit)進行評論，本場次預計進行 1 小時。
- B. 「技能教育與培訓(Skills Education and Training)」，本場次由 HRDWG-CBN 國際協調人我方代表蔡副署長孟良擔任主持人，本場次的經濟體與談代表為菲律賓 Ms. Rosanna A. Urdaneta, (Deputy Director , TESDA) ，訓練機構代表 Mr. Ha Xuan

Quang(College of Industrial Economics)及企業界代表 Mr. Kurnosov Nikolay(General Manager, Bosch Rexroth Viet Nam)。
本場次預計進行 1 小時，包括 30 分鐘的 Q&A。

- (2) 關於各經濟體登記發言方式與順序，會中確認正式會議各經濟體高階代表的發言順序，上午場次採用登記發言，而下午場次則於現場自由舉牌發言。我方因已事前完成於上午場次登記發言，故列發言序列第一順位，其餘登記發言經濟體包括澳洲、菲律賓、美國、馬來西亞、泰國、中國大陸及俄羅斯。

二、 正式會議

(一) 會議時間：106 年 5 月 15 日（星期一）

(二) 會議地點：越南河內國際會議中心（NCC）

(三) 與會人員：

國家發展委員會龔副主任委員明鑫

國家發展委員會林處長至美

國家發展委員會張處長惠娟

國家發展委員會賀專門委員麗娟

國家發展委員會李專員葳農

國家發展委員會黃專員毓芬

勞動部林專門委員永裕

勞動部黃科長耀滄

勞動部勞動力發展署蔡副署長孟良

勞動部勞動力發展署廖科長貴燕

勞動部勞動力發展署楊科長文治

教育部陳教育副參事寶鈴

(四) 會議議程：(見下頁)



HIGH LEVEL POLICY DIALOGUE ON HUMAN RESOURCES DEVELOPMENT

National Convention Centre, Ha Noi, Viet Nam, 15 May 2017

TENTATIVE AGENDA

Sunday, May 14, 2017

18:30 –20:30 Welcome dinner hosted by Deputy Minister of Labour, Invalids and Social Affairs (MOLISA), Viet Nam

Venue: Emerald Room, 6th floor, Lotte Ha Noi Hotel

Monday, May 15, 2017

Venue: Room 241, National Convention Centre

09: 00 – 09:30 Opening Session

1. Opening Remarks

H.E. Mr. Dao Ngoc Dung, Minister of MOLISA, Viet Nam

2. Address

Dr. Alan Bollard, APEC Secretariat Executive Director

3. Keynote speech

H.E. Mr. Vu Duc Dam, Deputy Prime Minister of Viet Nam

09:30– 09:45 Official Photograph Session

(Ministers , HODs and H.E. Mr. Vu Duc Dam , Deputy Prime Minister of Viet Nam)

09:45– 10:00 Coffee Break

10:00– 10:10 4. Report on HRDWG meetings

HRDWG Lead Shepherd

10:10 – 12:30 5. Session 1.Developing Human Resources in the Digital Age, Creating New Dynamism for Growth

Chair: H.E. Mr. Dao Ngoc Dung, Minister of MOLISA, Viet Nam

Suggested topics:

- To share views and experience regarding opportunities and challenges facing to HRD and Social protection in the digital age

- Keynote Presentations

by Mr. David Lamotte, ILO Deputy Regional Director for the Asia and the Pacific Region

by Ms. Wendy Cunningham, Lead Economist, the World Bank

by Prof. Gael McDonald, President and General Director, RMIT University

- Member economies to register

- + China
- + Korea
- + Malaysia
- + Russia
- + Chinese Taipei
- + Thailand
- + The United States
- + Viet Nam

.....

12:30 – 14:00 **Luncheon**

14:00 – 16:00 **6. Session 2. Promoting the engagement of stakeholders in the Human Resources Development**

Round 1: The future of work, labor market implications and social protection in digital age (1 hour)

Moderator: Prof. Dong Sun Park, HRDWG Lead Shepherd

Purpose: To share information and practical concerns of different stakeholders regarding HRD in the digital age and to discuss possible platforms for cooperation among key players

Panelists: (30 minutes)

- Economies: PNG (Ms. Mary Morola, Head of Department, Labour and Industrial Relations) ; Australia (Mr. Malcolm Greening, Assistant Secretary, Dept. of Employment),
- Enterprises: Mr. Nicholas Haber, Director, STEM & CTE, Certiport, A Pearson VUE Company
- Workers : Mr. Dang Quang Dieu, Director, Policy Department , Viet Nam General Confederation of Labour.
- Mr. Emmanuel San Andres, the APEC Policy Support Unit.

Open Discussion (30 minutes): Questions and answers between speakers and audience, comments and sharings from the audience.

Short break (5 minutes)

Round 2: Skills Education and Training (1 hour)

Moderator: Mr. Meng-Liang Tsai and Ms. Kuei-Yen Liao, CBN Coordinator

Panelist: (30 minutes):

- Economies: The Philippines (Ms. Rosanna A. Urdaneta, Deputy Director General of the Technical Education and Skills Development Authority) . *National legal framework/policy adjustment to promote and update vocational education and skill development system to meet new requirements of work in the digital age* (07 minutes as maximum)
- Training institute: Mr. Ha Xuan Quang, Rector, College of Industrial Economics (*Best practice in adapting vocational teaching and learning to*

	<i>new exposure the digital age</i>) (07 minutes as maximum) - Enterprises: Mr. Kurnosov Nikolay, General Manager, Bosch Rexroth Viet Nam (The role of education and training provider in tailoring TVET toward work demand of the digital age. (07 minutes/ each as maximum) <i>Open Discussion (30 minutes):</i> To share experience among speakers and audience on public-private role & responsibility in vocational education and skill development and mechanism for their involvement in the process (New Zealand, China, Viet Nam, Chinese Taipei)
16:00 – 16:15	Coffee Break
16:15 – 16:30	7. Session 3: Adoption of the APEC Framework on Human Resources Development in the Digital Age <u>Chair:</u> H.E. Mr. Doan Mau Diep, Deputy Minister of MOLISA , Viet Nam
16:30 – 16:45	8. Closing Session H.E. Mr. Doan Mau Diep, Deputy Minister of MOLISA, Viet Nam
16:45 – 17:45	9. Press Conference (Ministers and HoD, HRDWG Lead Shepherd, international organisations...) (Location: Room 241, National Convention Centre)
19:00- 21:30	Gala Dinner Hosted by: H.E. Mr. Dao Ngoc Dung, Minister of Labour, Invalids and Social Affairs, Viet Nam Venue: Crystal Ballroom B&C, 6th Floor, Lotte Hà Nội Hotel

(五) 會議內容

「數位時代人力資源發展高階對話」於 5 月 15 日於越南河內市 (Ha Noi, Viet Nam) 國際會議中心召開，計有澳洲、加拿大、汶萊、智利、中國大陸、中國香港、印尼、日本、韓國、馬來西亞、墨西哥、紐西蘭、秘魯、巴布亞紐幾內亞、菲律賓、俄羅斯、新加坡、泰國、美國、越南及我國共 21 經濟體代表出席。

今年 APEC 主辦經濟體越南相當重視人力資源發展議題。依據 ILO 報告顯示，越南因就業市場高度依賴勞動力密集產業，預估有 70% 的勞動人口面臨工業自動化的衝擊，其他 APEC 經濟體亦面對不同程度的風險。本次會議共有來自 21 個經濟體的高階政策官員與會，針對第 4 次工業革命對工作型態的衝擊、及應運而生的技能教育與訓練需求與社會保障措施等層面進行研商，會後並發布「數位時代下人力資源發展架構」，作為因應科技變遷的人力資源發展政策指導，並呼籲 APEC 經濟體共同合作，進行相關議題的合作與研究。

會議首先由越南副總理 Mr.Vu Duc Damg 做專題演講，其表示網路經濟的發展帶來新的技能與工作型態，未來幾年，各經濟體應為下一個產業轉型對勞動人力帶來的衝擊，在勞動者的職業與訓練模式上，即早做出準備。面對科技的不斷革新，研究變遷所產生的衝擊與尋找因應之道，有其迫切性，新科技對於就業與勞動關係帶來的新議題，涵蓋範圍包括勞動力市場的含義及影響、人力資源的發展、教育，培訓和再培訓等等，並從中探討如何利用優勢，發掘新的機會。因此，越南作為今年 APEC 主辦經濟體，認為 APEC 應擬定一個架構，輔以適當的政策方針和措施，為新進勞動力市場的參與者，所可能面對的各種挑戰和機會，作好準備。會後並與全體經濟體代表合影留念。

場次一：「數位時代之人力資源發展，創造成長新動能(Developing Human Resources in the Digital Age, Creating New Dynamism for Growth)」

由越南 MOLISA 部長 Mr.Dao Ngoc Dung 擔任本場次主持人，邀請 APEC 秘書處執行長 Mr. Alan Bollard，世界銀行經濟學家 Ms. Wendy Cunningham，ILO 亞太區辦公室副主任 Mr.David Lamotte，墨爾本皇家理工大學校長 Gael McDonald 教授等進行開幕致詞與專題演講，續由各經濟體代表登記發言。我方國家發展委員會龔副主任委員明鑫於主題一「數位時代人力資源發展：創造新成長動力」議題發言，分享我國數位人才發展策略，包括提升國民數位素養與技能培訓課程，補助企業研提員工跨域數位技能訓練計畫。並以今年將在台北舉辦「APEC 推動包容性成長—公平就業機會政策及其實踐」研討會為例，說明我國積極參與 APEC 事務的態度。其他發言經濟體包括中國大陸、韓國、馬來西亞、俄羅斯、泰國、美國及越南。其中美國分享其辦理之「DARE(Data Analytic Raising Employment):Employer Driven Competencies to Address Skills Shortages in the digital Age)方案」，提到我方為贊助經濟體，同時將會議後將採納的 framework 以 statement 稱之。

中午越方勞動部部長召開午宴，邀請各經濟體代表團團長、各工作小組總主席及分組國際協調人出席，我國由 CBN 副國際協調人廖科長貴燕陪同我國代表團團長龔副主委明鑫出席。

場次二：「促進關鍵利益者共同參與人力資源發展(Promoting the engagement of stakeholders in the Human Resources Development)」

會議的下午續進行大會場次二安排兩場對談，希望呈現「多方利益關係人」共同研討政策方向的模式，對談成員組成包括經濟體

代表、企業代表、勞動代表/訓練機構代表及政策評論所設定的主題分別為：

1. 「未來工作與勞動市場變遷暨社會保障(The future of work, labor market implications and social protection in digital age)」

本場次由 HRDWG 總主席 Prof. Dong Sun Park 擔任主持人。本場次的經濟體與談代表為巴紐 Ms. Mary Morola(Head of Department, Labour and Industrial Relations)及澳洲 Mr. Malcolm Greening (Assistant Secretary, Dept. of Employment) 與企業界代表 Mr. Nicholas Haber(Director, STEM & CTE, Certiport A Pearson VUE Company)和勞工代表 Mr. Dang Quang Dieu(Director, Policy Department , Viet Nam General Confederation of Labour)進行對談，並由 Mr. Emmanuel San Andres(the APEC Policy Support Unit) 進行評論，本場次預計進行 1 小時，包括 30 分鐘的 Q&A。

2. 「技能教育與培訓(Skills Education and Training)」

本場次由我方代表 CBN 國際協調人蔡副署長孟良受邀擔任主持人及開場致詞，提到應鼓勵經濟體協力合作，透過優質兼容的教育及職訓，強化區域間合作，提升技能以覓得優質工作，期待與會者貢獻智慧，賦予數位時代勞動力所需的工作技能。與談的經濟體與談代表為菲律賓 Ms. Rosanna A. Urdaneta, (Deputy Director , TESDA)，訓練機構代表 Mr. Ha Xuan Quang(College of Industrial Economics)及企業界代表 Mr. Kurnosov Nikolay(General Manager, Bosch Rexroth Viet Nam)。本場次預計進行 1 小時，包括 30 分鐘的 Q&A。

菲律賓技職教育及技能發展局副局長 Ms. Rosanna A. Urdaneta 表示數位化時代所需新就業需求仰賴政府調整國家法律架構及政策方向，以提升職業訓練及技能發展體系；越南產業經濟學院院長 Mr. Ha Xuan Quang 分享越南在面對數位化調整職訓教育制度最

佳範例，越南博世(Bosch)總經理 Mr. Kurnosov Nikolay 則表示業界於數位化時代下工作類型需求轉變，教育及職訓體系必須跟上業界需求快速變遷步伐。面對數位時代下勞動市場之挑戰，泰國希望透過發展國際職能基準、提倡勞動市場能力建構及技能發展、與促進國際合作協力發展勞動技能提升來因應，紐西蘭由於人口較少，職訓政策方向著重中小企業技能提升，其認為提升勞動力技能是促進國民生活福祉相當重要的一環，因此，優化職訓教育體系也是政府施政重點。但因數位時代勞動市場所面臨技術斷層，職訓教育體系若要達成全面學習者導向(learner-focused)，不仅需要回應市場產業界需求技能，更需要培養具有軟實力的勞動力。

我方代表龔副主委明鑫並於技能教育與培訓場次時發言，表示我國認知到促進關鍵利益者參與人力資源發展的重要性，尤其是產業界的參與。過去在 APEC 人力資源發展工作小組之能力建構分組，我國也積極參與及貢獻，並為回應 2016 年 APEC 領袖宣言、2017 年 APEC 主題「創造新動能，育成共同未來」及優先領域，我國倡議「亞太技能建構聯盟(APEC Skills Development Capacity Building Alliance, ASD-CBA)」計畫，已在台成立「亞太技能建構中心」國際職訓園區，今年將推動「APEC 技能建構聯盟：數位時代技能提升(APEC Skills Development Capacity Building Alliance: Upskilling in the Digital Age)」計畫，規劃在臺辦理為期 2 個月之「產業種子師資技能提升培訓專班」，開設「智慧自動化」及「綠能光電」種子師資培訓課程，透過種子師資交流提升渠等跨域數位技能，也歡迎有興趣之經濟體共同參與。

場次三：「APEC 數位時代之人力資源發展架構(APEC Framework on Human Resources Development in the Digital Age) 」

完成會場次一、二後，大會邀請越南 MOLISA 部長 Mr.Dao Ngoc Dung 擔任大會場次三之主席，並簡要說明此架構的研擬過

程，因無經濟體代表發言，現場無異議採認「APEC Framework on Human Resources Development in the Digital Age」為本次會議正式文件(詳見附錄 3)，主席宣布本次會議圓滿落幕，並感謝各經濟體的參與。會後越南即召開記者會，由越南 MOLISA 部長 Mr.Dao Ngoc Dung 及 HRDWG 總主席(HRDWG Lead Shepherd), Prof. Dong Sun Park 主持，向媒體說明本次會議成果。

貳、 第 42 次人力資源發展工作小組（HRDWG）會議

一、 大會

(一) 會議時間：106 年 5 月 14 日（星期日）

(二) 會議地點：越南河內國際會議中心（NCC）

(三) 與會人員：

國家發展委員會林處長至美

國家發展委員會賀專門委員麗娟

國家發展委員會黃專員毓芬

勞動部林專門委員永裕

勞動部黃科長耀滄

教育部藍先茜副司長

教育部陳寶鈴教育副參事

銘傳大學劉國偉國際副校長

勞動力發展署蔡副署長孟良

勞動力發展署廖科長貴燕

勞動力發展署楊科長文治

勞動力發展署陳助理研究員厚任

(四) 會議議程：（見下頁）

Day 1: 14 May 2017 (Sunday)		
LSAC Meeting (Closed Door Meeting) <i>Opened for HRDWG LS, APEC PD, Network Coordinators, Representatives from Peru & Viet Nam</i>		
08:45 - 09:15	'30	Discussion between HRDWG Lead Shepherd's Advisory Committee (LSAC) about Long-term and New Initiatives, HRDWG's web presence, hosting of the 43rd Plenary Meeting and other important policies regarding operation of HRDWG
The 42nd Human Resources Development Working Group (HRDWG) Meeting <i>Chair: Prof. Dong Sun Park, HRDWG Lead Shepherd</i> <i>Co-Chair: Ms. Le Kim Dung, Director, Ministry of Labour and Social Invalids, Viet Nam</i>		
09:30 – 09:45	'15	(1) Opening Ceremony - Welcome Remarks by Viet Nam - Opening Remarks by HRDWG Lead Shepherd
09:45 – 09:50	'5	Opening Official Photo
09:50 – 09:55	'5	(2) Adoption of Agenda <i>By HRDWG Lead Shepherd</i>
09:55 – 10:00	'5	(3) Business Arrangements <i>By Viet Nam, Co-Chair</i>
10:00 – 10:20	'20	(4) Brief Presentation on the HLPD-HRD in the Digital Age <i>By Ministry of Labour and Invalids, Viet Nam</i>
10:20 – 10:50	'30	(5) Report on the Preparatory Meeting for the HLPD-HRD in the Digital Age <i>By Ministry of Labour and Invalids, Viet Nam</i>
10:50 – 11:00	'10	Coffee Break
11:00 – 12:30	'90	(6) Discussion and Endorsement on the Draft: APEC Framework on Human Resources Development in the Digital Age <i>By Viet Nam, Co-Chair</i>
12:30 – 14:00	'90	Lunch
14:00 – 14:15	'15	(7) Notes on Logistics Matters regarding the HLPD-HRD in the Digital Age <i>By Viet Nam, Co-Chair</i>
14:15 – 15:00	'45	(8) Discussion on HRDWG Documents and others <i>By HRDWG Lead Shepherd</i>
		8.1 HRDWG Terms of Reference (Update) 8.2 HRDWG Work Plan 2017 (Update) 8.3 HRDWG Strategic Plan 2017-2020 (Adoption) 8.4 HRDWG Responses to SCE on the Independent Assessment (Adoption)
15:00 –	'30	(9) APEC Services Competitiveness Roadmap (ASCR)

15:30		Implementation Plan 2016-2025 <i>By APEC Secretariat Policy Support Unit (PSU)</i>
15:30 – 15:50	'20	Coffee break
15:50 – 16:05	'15	(10) APEC Project Reform overview/Project Update <i>By APEC Secretariat Project Management Unit (PMU)</i>
16:05 – 16:20	'15	(11) Building a Culture of Prevention on OSH (Occupational Safety and Health) in APEC Economies Workshop Report <i>By Russia</i>
16:20 – 16:50	'30	(12) Discussion on APEC Labour Mobility Framework <i>By Australia</i>
16:50 – 17:05	'15	(13) Brief Report on the EDNET meeting and Joint Meeting between HRDWG EDNET and PPSTI <i>By HRDWG Lead Shepherd and EDNET Coordinator</i>
17:05 – 17:20	'15	(14) Hosting Arrangements for the 43rd HRDWG Meeting and the 7th APEC Human Resources Development Ministerial Meeting (HRDMM) <i>By LSPN Coordinator</i>
17:20 – 17:30	'10	(15) Statement of Observers <i>- if there are invited guests to the meeting, statement of observers will be made</i>
17:30 – 17:50	'20	(16) Adoption of Summary Record of the 42nd HRDWG meeting <i>HRDWG Lead Shepherd & Co-Chair</i>
17:50 – 18:00	'20	(17) Closing Remarks <i>HRDWG Lead Shepherd & Co-Chair</i>

(五) 會議紀要：

1. APEC 人力資源發展工作小組(Human Resources Development Working Group, HRDWG)是 APEC 人力資源發展部長及教育部長會議之幕僚，考量議題橫跨教育、技能建構、勞動與社會保障、公義社會及永續發展等多元面向，目前下設 3 個分組，分別為：勞工與社會保障分組(Labor and Social Protection Network, LSPN)、能力建構分組(Capacity Building Network, CBN)及教育分組(Education Network, EDNET)，由國家發展委員會(下簡稱國發會)、勞動部勞動力發展署(下稱發展署)與教育部分別主政，並由國發會擔任國內總協調窗口。本次會議為第 42 次 HRDWG 會議。
2. 本次會議由 HRDWG Lead Shepherd (LS), Prof. Dong Sun Park 主持，計有 15 個經濟體出席，包括澳洲、汶萊、智利、中國大陸、日本、韓國、紐西蘭、巴布亞紐幾內亞(下稱巴紐)、秘魯、菲律賓、俄羅斯、泰國、美國、越南及我國。
3. 美國提出 1 項會議議程動議，希望增加一個時段就「APEC 教育策略執行工作坊」進行成果報告，獲主席同意。
4. 越南 MOLISA 副處長 Ms. Ha Thi Minh Duc 報告「數位時代人力資源發展高階政策對談」會議議程與會務安排。我方發言澄清並未登記擔任下午場次一的與談經濟體，除請越南更正外，並請越南可以就下午場次的進行方式做更清楚的說明，泰國代表亦發言表示對於下午場次將以 talk show 方式進行表達關切，越南表示將會提供新的議程，載明上下午場已登記發言的經濟體，讓各經濟體可以透過電子郵件方式與越南進行確認。另有關下午場次的進行方式，將採取對談方式，越南表示僅希望以 talk show 凸顯會議將以動態方式進行，並非真正的 talk show。
5. 本次會議共需採認 4 份 HRDWG 文件，分別為 HRDWG 章程

(ToR)、2017 年度工作計畫、2017-2020 工作策略及 Independent Assessment 建議事項回應情形。其中我方提議將 5 月 13 日教育分組會議中，我方新提出且獲得採納的 APEC 新方案納入 2017 年度計畫，並表示將於 5 月 15 日前提提供，獲主席同意，故除 2017 年度工作計畫外(於 5 月 16 日提供 HRDWG 檢閱，並於 5 月 31 日採納)，均獲得採納。

6. 越南報告「APEC 數位時代人力資源發展架構」的修訂進度，美國提議將此項討論移至下午場，美國表示雖然認同 HRDWG 可以在這個議題上做出貢獻，也感謝越南針對此議題所投入的努力，惟渠認為 APEC 目前已有過多的文件，是否需要再多出一個新的架構，仍需慎重考量，目前正在等待該國資深官員辦公室提供新的文件內容，且考慮此份文件的名稱是否應沿用架構 (framework) 一詞或應改為政策宣言 (policy statement)。
7. 越南首先發言反對修改名稱，並表示此架構草案內容已經透過電子郵件方式，交 HRDWG 審閱 2 次，並且經過預備會議修訂，已具有多數共識，因此反對於會議前夕貿然修正。中國大陸發言表示支持越南，表示希望能夠沿用原先的名稱與內容，澳洲則發言提醒會議前一日方大幅修訂文件內容，將導致無法及時將會議文件提供出席高階政策對談的各經濟體代表。本項討論延至下午場次繼續討論後決議，將不會提交任何新的文件，仍將使用原經各經濟體討論並以具有多方共識的文件 (APEC Framework on Human Resources Development in the Digital Age) 及其內容。
8. 澳洲報告「APEC 勞動力跨境移動架構」，已於 2017 年 2 月辦理研習工作坊，並成立跨論壇諮詢小組，計有印尼、馬來西亞、菲律賓、美國、越南與我國等經濟體參與，澳洲並將邀請經濟委員會 (EC)、觀光工作小組 (TWG) 與環太平洋大學聯盟 (APRU) 共同協助研擬本架構。下一步將繼續收集各經濟體的建議，計

畫提交第三次資深官員會議。印尼代表發言表示感謝澳洲所提倡議，並表示支持透過跨境技能認證系統的建立，來促進勞動力跨境移動，並建議採用東協推動 MRA(Mutual Recognition Arrangement)的經驗；中國大陸發言表示此架構涵蓋範圍相當廣泛，可於未來多加討論。美國發言表示因為新政府的政策走向，對於此架構觸及的外籍工作者議題表示恐有疑慮，但感謝澳洲對於倡議此架構的努力。ABAC 代表發言表示，ABAC 長期以來關注區域內勞動力供給不均的問題，因此與澳洲共同推動此項倡議，希望作為解決部分區域勞動力不足的問題，並表示此架構鼓勵各經濟體重視區域內勞動力供需狀況資訊分享，將可做為未來預測區域內勞動力供給狀況的重要資訊來源。越南及菲律賓均發言支持本項倡議。

9. APEC 政策支援小組(PSU) Mr. Andre Wirjo 出席報告 APEC 服務業競爭路徑圖(APEC Services Competitiveness Roadmap, ASCR) 2016-2025 推動計畫(Implementation Plan 2016-2025)，其中與 HRDWG 相關的部分為行動方案 2 (cross-border mobility for professionals) 及行動方案 8 (supporting cooperation on cross-border education)，並建議將澳洲推動的「APEC 勞動力跨境移動架構」納入行動方案 2。
10. 經濟體已完成方案報告方面，由美國報告「APEC Project Data Analytics Raising Employment (DARE): Recommended Competencies for HRDWG Endorsement.」及俄羅斯報告「Building a Culture of Prevention on Occupational Safety and Health (OSH) in APEC Economies Workshop.」。
11. 教育分組國際協調人中國籍王燕女士報告 EDNET-PPSTI 聯席會議及今年第 2 次教育分組會議成果。
12. 勞動與社會保障分組國際協調人巴紐籍 Ms. Mary Morola 報告巴紐將於 2018 年辦理第 43 次 HRDWG 會議及第 7 屆 APEC 人力

資源發展部長會議，辦理細節將會透過電郵方式提供各經濟體檢視。

13. 會後勞動部代表分別與越南及巴紐進行雙邊會議

(1) 臺越雙邊會議

勞動部林專門委員永裕及黃科長耀滄與越南勞動部國際合作司副司長 Ms. Cao Thi Thanh Thuy 於 5 月 14 日進行雙邊會談，就全球供應鏈議題及洽簽「臺越勞動合作協定」一案交換意見，我方表示已於 104 年 12 月提出協定草案，並已由外交部送請駐越南代表處提供越南勞動部參考並提供意見，惟迄今仍未獲越方正式回復。越方代表表示，伊奉國際合作司司長 Ms. Le Kim Dung 指示與我方洽談本案，因我國勞動力發展署已與越南海外勞工管理局簽署引進越南勞工事務合作協定，惟海外勞動力事務非屬國際事務司職責，故無法由雙方已簽訂之勞工事務合作協定逕行研議擴大合作項目。越方表示願意推動臺越勞動事務合作，並傾向雙軌進行，即現行越南海外勞工管理局與我勞動力發展署仍持續依原有合作協定進行海外勞動力事項合作，我勞動部與越南勞動部則持續推動洽簽廣泛性合作協定。越方其他意見如下：

- A. 樂見臺越雙方共動推動洽簽勞動合作協定，惟相關內容越南涉勞動部內不同主管局處，仍需時間進行內部溝通及研議，未來臺越雙方或許可先就合作協定內容舉行研討會，共同檢視及瞭解雙方法令制度。
- B. 推動臺越勞動合作主要目的係為建立資訊交換機制，讓雙方勞工及雇主瞭解當地勞動法令及制度，協助雇主遵守當地勞動法令，保障勞工權益。另社會保險議題亦是越方關切議題，越南新法強制在越南工作之外國人應參加當地社會保險，並已與其他國家簽署社會保險合作協定，目前亦正與德國及韓國洽簽社會保險協定中，越南臺灣商會曾多次向越南政府建

議，臺越雙方未來可研議洽簽相互避免重複繳交社會保險金協定，免除雙方企業雙重繳納保費並強化社會保險覆蓋率。

- C. 同意我方所稱此合作協定係廣泛性的勞動事務合作原則架構，雙方簽署後可就實際合作內容或具體項目定期檢討議定，並可納入加強勞動法令之交換及宣導，惟我方所擬協定草案名稱為「Agreement」，未來協定名稱究採用 Agreement, Memorandum of Understanding, guideline 或 Framework，仍需再協商確認。另協定內容應納入定期檢討機制，雙方得以研討會方式充分就協定落實情形交換意見。
- D. 同意將合作協定草案內容帶回諮詢內部相關單位，列出優先或可進一步洽議的內容或項目，儘早回復我方。越方建議我方於適當時間組團派員至越南勞動部當面洽談協定內容及文字細節，越南勞動部次長規劃於本年訪臺，或可於訪臺期間進一步交換意見。另建議雙方可先行建立聯絡點，密切交換相關意見。
- E. 臺越雙方勞動合作將有助雙方落實 APEC 相關倡議及計畫。

(2) 臺巴紐雙邊會議

勞動部林專門委員永裕及黃科長耀滄與與巴布亞紐幾內亞勞動部次長 Ms. Mary Morola 等 3 人於 5 月 14 日進行雙邊會談，雙方就明(2018)年度推動臺巴紐在 APEC HRDWG LSPN 領域合作議題交換意見，會談重點如下：

- A. 我方首先說明本年 5 月 PNG APEC 大使 Ivan Pomalen 訪台拜會本部林常務次長三貴情形，及感謝 PNG 指派勞動部官員 Mr. Andrew Iki 參與「APEC 全球供應鏈之工作生活品質與優質成長工作坊」，並歡迎 PNG 就該次工作坊相關事項提出建議與想法。另外全球供應鏈是長期性的議題，我勞動部明年也將就相關議題繼續推動相關倡議及計畫，盼 PNG 能持續支

持及共同推動這項議題與倡議，作為對 APEC 之貢獻並加深台巴紐在勞動事務之互動及鏈結。

- B. PNG 表示，該國為 ILO 的會員國之一，政府必須積極依據 ILO 關於尊嚴勞動的公約制定相關法規，致力落實相關規定以保護勞工，並希望可以透過 APEC 經濟體的合作，促進尊嚴勞動的落實。另可透過建立相關的架構，在 ILO 專家會議中，討論有關尊嚴勞動最佳範例，透過政府、雇主及工會的三方對話機制，共同推動及合作，如此在 APEC 相關會議中更能證明發展經濟同時亦能落實尊嚴勞動。我方表示未來雙方可針對 ILO 核心勞動基準、ILO 一百週年重要議題-工作的未來倡議，以及聯合國 SDG 等重要勞動議題持續推動雙邊合作。
- C. PNG 將主辦 2018 年 APEC 會議，該國政府已開始準備舉辦 APEC 會議的相關資訊、資料及議題，各部會也已開始召開相關會議進行籌備工作。我方表示明年是 PNG 與各經濟體進行溝通與合作的很好機會，我方盼能共同推動全球供應鏈相關倡議及合作，並建議 2018 年在 PNG 舉辦之人力資源工作小組(HRDWG)及周邊會議中，共同辦理全球供應鏈議題後續相關會議及討論。
- D. 2018 年將於 PNG 舉辦 APEC 人力資源部長會議(HRDMM)，PNG 建議各經濟體應及早開始配合進行相關籌備工作，包括會議時程、議題選擇、周邊會議安排等，我方建議 PNG 將工作生活品質與優質成長(Quality life and quality growth)、全球供應鏈及價值鏈等議題加入 HRDMM 討論的方向。
- E. 我方另再次感謝 PNG 支持我勞動部本年提出之 APEC 「推動包容性成長-公平就業機會政策及實踐倡議」，並邀請 PNG 參與我勞動部規劃於本年第 3 季舉辦之研討會。

二、 PPSTI-EDNET 聯席會議暨教育發展分組會議

(一) 會議時間：106 年 5 月 13 日（星期六）

(二) 會議地點：越南河內國際會議中心（NCC）

(三) 與會人員：

教育部國際及兩岸教育司藍副司長先茜

教育部國際及兩岸教育司陳教育副參事實鈴

銘傳大學劉國際副校長國偉

國立臺北科技大學林組長彥良

國立臺北科技大學陳專任助理俐瑋

(四) 會議議程：（見下頁）

PPSTI-EDNET Joint Session
National Convention Centre, Room 343
Ha Noi, Viet Nam
13 May 2017

13 May 2017	
09:00-09:10	Welcome Remarks <i>PPSTI Chair & Vice Chairs</i>
09:10-09:20	Welcome Remarks <i>EDNET Coordinator & Viet Nam's EDNET Co-Chair</i>
Session 1. Teaching and Learning of STEM	
09:20-10:05	Presentations by Member Economies --A Study on Standards and Evaluation System of STEAM Curriculum Based on Students' Science Literacy (China) --APEC STEM Education For Economic Growth: Curriculum Reform (2018), Teacher Education (2019), and STEAM (2020) (Japan) --Talent Pool (Malaysia)
10:05-10:10	Q&A
10:10-10:40	Group Photo and Coffee Break
Session 2: Science, Technology and Innovation in Higher Education	
10:40-11:25	Presentations by Member Economies --APEC Guiding Principles for Research Integrity Phase Two (Australia) --International Technology Transfer Professional in Universities (China) --APEC Project DARE (Data Analytics Raising Employment) (US) --Title to be determined (Viet Nam)
11:25 -11:30	Q&A
Session 3: Discussion: How to enhance cross-fora cooperation between PPSTI and EDNET?	
11:30 - 11:50	Discussion on Cross-Fora Actions • Nominate Cross-fora Coordinator for PPSTI-EDNET • Joint Policy Statement
Wrap-up Session	
11:50 -1:10	--Executive Summary --Closing Remarks <i>PPSTI Chair & Vice Chairs</i> <i>EDNET Coordinator & Viet Nam's EDNET Co-Chair</i>

2nd Annual APEC Education Network Meeting in 2017

13 May 2017

Meeting Room 343, National Convention Center, Hanoi, Viet Nam

AGENDA

2nd Annual APEC Education Network Meeting in 2017	
13:30-13:50	Welcome Remarks <i>EDNET Coordinator & EDNET Co-Chair</i>
Session 1: Presentation on Proposed and Ongoing Projects and Initiatives	
13:50-15:00	Presentation on Proposed and Ongoing Projects and Initiatives <i>Quality Assurance in Online Education (Australia)</i> <i>Cross-Border Higher Education Data Collection (Australia)</i> <i>Attracting Cross-Border University Students (China)</i> <i>APEC Education Research Network (China)</i> <i>APEC Community for Education Innovation (Korea)</i> <i>The 6th APEC Conference on Cooperation in Higher Education (Russia)</i> <i>Skills Training in Industry-Academia Collaboration in CTE (Chinese Taipei)</i> <i>Digital Workforce Development (United States)</i> <i>Higher Education Qualification Recognition: Best Practices in the APEC Region (Viet Nam)</i>
Session 2: Discussion: EDNET Initiative	
15:00-15:40	• APEC Excellence Prize on Education and Learning Innovation • APEC Education Development Newsletter
15:40-16:00	Group Photo & Tea Break
Session 3: Action Plan of APEC Education Strategy	
16:00-17:00	Endorsement of First Draft of Action Plan of APEC Education Strategy
Session 4: Wrap-up	
17:00-17:30	Endorsement of Summary Report of the 2nd Annual EDNET Meeting in 2017
17:30-18:00	Closing Remarks <i>Dr. Wang Yan, EDNET Coordinator</i> <i>Mr. Pham Chi Cuong, Deputy Director General, International Cooperation Department, Ministry of Education and Training of Viet Nam</i>

(五) 會議紀要

開幕式

為呼應 APEC 近年推動跨論壇合作之呼籲，本日上午 EDNET 與 APEC 科技、技術及創新政策夥伴(Policy Partnership on Science, Technology and Innovation, PPSTI)共同召開聯合會議，共計有 19 個經濟體參加，分別為澳洲、汶萊、加拿大、智利、中國大陸、香港、印尼、日本、韓國、馬來西亞、紐西蘭、巴布亞紐幾內亞、菲律賓、俄羅斯、新加坡、泰國、美國、越南及我國。

會中通過跨分組協調人提名草案，以強化 EDNET 與 PPSTI 建立更密切資料分享與政策共享之永續機制。EDNET 與 PPSTI 聯合會議開幕式由主辦經濟體越南教育培訓部國際合作司范志強副司長、EDNET 國際協調人中國大陸王燕博士及 PPSTI 主席 Lisa Brodey 女士共同主持。

王燕博士致詞時指出教育及科學之間潛在的合作可能性，並強調科學及研究對於創新的重要。范志強副司長接續致詞，側重於 PPSTI 與 EDNET 合作夥伴關係在面對數位時代人力資源發展挑戰的重要性。

場次一：STEM 教學及學習(Teaching and Learning of STEM)

中國大陸報告「A Study on Standards and Evaluation System of STEAM Curriculum Based on Students' Science Literacy」，該計畫關注調查 APEC 各經濟體中小學階段 STEAM (STEM + Arts)的課程規劃、課程檢定標準及學生學習檢定方式。計畫主要研究對象為北京清華大學附屬高中及小學，透過比較研究、工作坊及訪談學者專家經驗及行動計畫。

日本報告與泰國共同合作計畫「APEC STEM Education For Economic Growth: Curriculum Reform (2018), Teacher Education (2019), and STEAM (2020)」，藉由跨國共同合作，提出科學、技術、工程及數學課程規劃與改革，進而讓學生與學者更能關切環境與能源議題，同時滿足未來生態變遷的困境，教師培訓亦將納入計畫。我國教育部國際及兩岸教育司藍

先茜副司長表達支持計畫，並發言表示 STEM 的關鍵為教師素質，我國刻正準備關於 STEM 的教師專業培訓計畫，歡迎各經濟體共同加入。泰國發言支持我方。

馬來西亞報告「Malaysia's Strategy in Building Partnerships for Innovative Growth」，討論如何將傳統產業轉化為創新產業。馬國期待透過建構合作網絡，將學校研發成果與創新產業所需科技相互結合。藉由分享成果的機制，讓所有參與的合作夥伴都能分享到未來創新產業產生的工商利潤。另外該國擬建立人才庫(Talent Hub)，幫助各類人才培育銜接產業實際所需。該國將「工業 4.0」(Industry 4.0)、「伊斯蘭金融科技」(Fintech in Islamic Finance)、「電子健康照護系統」(e-Health Delivery System)及「清真食品供應鏈」(Halal Supply Chain)等四大創新產業列為重點發展方向。

美國介紹於 2017 年 5 月 14 日舉辦之「婦女與 STEM 工作坊」，並表示前揭工作坊成果皆將有助於 EDNET 與 PPSTI。

場次二：高等教育之科學、科技及創新(Science, Technology and Innovation in Higher Education)

澳洲報告「APEC Guiding Principles for Research Integrity Phase Two」，維護學術倫理是學術界的共同議題，也深受 APEC 經濟體的重視，鑒於學術倫理問題引起大眾質疑研究成果及其成效，澳洲期許藉由推動此計畫，建立自願性學術倫理原則。透過各經濟體參與計畫，得以討論及檢視哪些是最為基本且重要的學術研究倫理標準。經濟體也能分享自身經驗，並可依據自身教育與學術文化適度修正或增添原則。

中國大陸報告「Foster International Technology Transfer (ITT) Professionals for APEC STI Cooperation and Connectivity」，為建立穩定的經濟發展，技術與專業證照的跨境轉移相當重要，若能建立跨境技術轉移對照標準，就能促進區域間人才流動(mobility)，進一步推動創新產業的發展。中國大陸呼籲於 APEC 區域推動 ITT 的聯合行動，並邀請

EDNET 及 PPSTI 成員參與今年 7 月於中國大陸蘇州舉行的工作坊。

美國報告「APEC Project DARE (Data Analytics Raising Employment)」，藉由產業訪談以瞭解市場人力需求的實際標準，特別是 21 世紀所需的能力，如合作能力(collaboration)、溝通能力(communication and storytelling)、企業倫理的建立(ethical mindset)、組織覺察(organizational awareness)、批判性思考(critical thinking)、企劃與組織能力(planning and organizing)、問題解決能力(problem solving)、決策力(decision making)、顧客導向(customer focus)、彈性變通能力(flexibility)、基礎商業知識(business fundamentals)、跨文化覺察能力(cross cultural awareness)、社會覺察能力(social and societal awareness)、多元化自我能力發展(dynamic (self) re-skilling)、專業網絡能力(professional networking)及創新創業能力(entrepreneurship)。智利及中國大陸表達支持。

越南報告「Viet Nam STEM Alliance - A Case Study of Social Innovation for STEM Development」，越南於國內組成 STEM 聯盟，包含大學、教育單位、中小學及產業代表等，以進行教師訓練、訓練學生科學研究團隊、建議 STEM 相關公共政策、推動學生科普閱讀文化、組織 STEM 專業營隊及針對偏鄉地區學生的特別活動等，鼓勵並資助與國外合作連結的 STEM 活動。PPSTI 主席及副主席肯定越南透過 STEM 教育促進社會創新的貢獻。

場次三：強化 PPSTI 及 EDNET 跨論壇合作

經濟體接續討論 PPSTI 及 EDNET 跨論壇合作之可行方案，包含提名 PPSTI 及 EDNET 跨論壇協調人及撰擬聯合政策聲明(詳如附件 2)。EDNET 國際協調人王燕博士建議藉由此一協調人的成立，EDNET 與 PPSTI 可建立更密切資料分享與政策共享的機制。加拿大表達參與跨論壇計畫的強烈興趣，美國建議成立跨論壇線上資源分享平臺，APEC 秘書處計畫總監(Program Director)支持美國提案。

隨後進行跨網絡組織協調人的提名作業(Nominate Cross-fora

Coordinator for PPSTI-EDNET)，由於沒有經濟體提名擔任 PPSTI 及 EDNET 跨論壇協調人之人選，PPSTI 主席建議由 EDNET 國際協調人兼任此職，獲得所有與會代表一致同意。

上午聯席會議結束。

下午由 EDNET 單獨召開會議，由國際協調人王燕博士及共同主席主辦經濟體越南教育培訓部國際合作司范志強副司長共同主持，共計有 15 個經濟體參加，分別為澳洲、汶萊、智利、中國大陸、印尼、日本、韓國、紐西蘭、菲律賓、俄羅斯、新加坡、泰國、美國、越南及我國。

場次一：EDNET 各經濟體提案報告

其中，共有來自澳洲、中國大陸、韓國、俄羅斯、美國、越南及我國等 7 個經濟體簡報各自提案。首先由澳洲報告 2 個項正執行的計畫，第一為「APEC 線上教育品保」(APEC Quality Assurance in Online Education)。因應遠距教學的盛行，如何確保教學品質成為重要的教育議題。此計畫結合教育主管單位、學校、教師及學生等代表，共同討論遠距教學的教學品質標準。澳洲期待透過此計畫建立評估遠距教學的品質基準，並將提供檢核遠距教學品質的範本給各經濟體，同時歡迎各經濟體持續提供遠距教學品保的政策規範及相關積極作法，澳洲願提供交流平臺整合相關資訊供各經濟體使用。

第二為「APEC 跨境高等教育數據蒐集」(APEC Cross-Border Higher Education Data Collection)計畫。高等教育移動力已成顯學，然而具體的資料與數據仍相當缺乏。澳洲自去年起已蒐集各經濟體多樣化的高等教育移動模式與其數據資料，並於秘魯阿雷基帕舉辦工作坊，澳洲鼓勵經濟體繼續支持數據調查，方可提供更具體成果給教育政策執行者與制定者參酌。許多經濟體對於出國留學者的動機與資金來源等資料甚感興趣，並期待能獲得更多相關數據，以更具體地瞭解高等教育學生跨境移動力的現況。

中國大陸報告新計畫「吸引跨境大學學生:發現及維繫 APEC 區域內

最佳典範」(Attracting Cross-Border University Students: Identifying and Sustaining Best Practices in the APEC Region)。雖然 APEC 領袖宣言及教育部長會議聯合宣言一致鼓勵各經濟體學生的跨境學習，但 APEC 區域內學生跨境移動的數據仍有待加強。因此該計畫聚焦 APEC 區域內學生移動情形，期待藉由問卷、政策的分析及 2 次半天的工作坊，分享各經濟體吸引國際學生的最佳典範。韓國、菲律賓、泰國、美國及越南支持此計畫。

韓國報告新計畫「APEC 創新教育社群」(APEC Community for Education Innovation, CEDI)。面對科技變遷所帶來的教育衝擊，韓國極力從事於全球化教育及人力資源養成計畫。藉由發展 CEDI 計畫，盼能釐清全球化教育的挑戰，以及發現創新的解決方法。該計畫透過公開參與、聯合研究、架設網站及先導性計畫等方式整合調查與分享創新教育的最佳典範，以降低學用落差及整合更多樣化的教育資源，韓國呼籲所有經濟體共同參與。我國發言表達支持。

俄羅斯報告項正執行的計畫「APEC 第 6 屆高等教育合作會議-促進人與人連結之學歷採認」(6th APEC Conference on Cooperation in Higher Education -Diploma Recognition for people-to-people connectivity)。自 2012 年起，俄羅斯每年皆選在海參崴舉辦「APEC 高等教育合作會議」。去年 9 月舉辦之第 5 屆會議，共有 13 個經濟體參與，除了討論「APEC 第 6 屆教育部長會議」主題外，另舉辦「APEC 青年教育會議」(APEC Junior Education Meeting)，青年學子共同針對年輕人重視的議題如教育品質、跨界教育、學用落差等議題進行討論。今年預訂於 9 月 6-7 日續於海參崴舉辦第 6 屆會議，主題為「促進人與人連結之學歷採認」(Diploma Recognition for people-to-people connectivity)。

接續由我國簡報 1 項結案報告及 2 項新提案，首先由國立臺北科技大學林彥良組長簡報「技職教育之產學合作模式與職能訓練—以工程、觀光及創新創業典範實務為例」(Skills Training in Industry-Academia Collaboration in CTE: Best Practices and Implementation in the Engineering,

Hospitality and Innovative Entrepreneurship Fields)結案報告，前揭自費提案於2017年4月25-27日於臺北舉辦產學合作論壇，共有來自馬來西亞、泰國、菲律賓、印尼、越南、新加坡、韓國、秘魯及俄羅斯等9個APEC經濟體的17名代表與會，並吸引我國大專校院超過110名學校代表參與論壇，成果豐碩。

林組長接續簡報預計爭取今年APEC Central Funding-Session 2的新提案「區域產學合作人才發展：技能訓練、實習及工作交流」(Regional Industry-Academia Collaboration for Talent Development: An Exchange of Skills Training, Internships, and Jobs)。2018年將舉辦的活動計畫，內容包含我國技專院校如何結合產業與大學的產學合作關係及降低學用落差的努力與成果，以及將大學創新創業課程與產業產學合作的模式分享給APEC經濟體，現場獲得多個經濟體的肯定，總計獲得印尼、韓國、新加坡、菲律賓、美國、泰國及越南等7個經濟體的支持，順利成案。

接續由我國銘傳大學劉國偉國際副校長報告預計爭取今年APEC Central Funding-Session 2之新提案「全球在地化跨境科學素養能力建構：STEM師資專業發展創新教育最佳典範第一階段」(Cross-Border Human Capacity Building for Glocalized Scientific Literacy: Phase 1: The Best Practice for Innovative STEM-Related Education for Teacher Professional Development)，此係我國與泰國共提之新倡議，藉由全球知識在地化的方法，營造嶄新的STEM在職教師專業訓練，我國與泰國均將分別舉辦教師專業訓練工作坊，提供各經濟體參與及分享，在場獲得中國大陸、韓國、日本、菲律賓、印尼及越南等6個經濟體發言表達支持，順利成案。

美國報告新計畫「數位化勞動力發展」(Digital Workforce Development for Competency & Employability)，期待發展最佳政策及典範，得以運用於技職教育數位化，同時引進產業界人力需求，讓美國與其他經濟體學習。中國大陸、韓國、紐西蘭、俄羅斯、越南及我國表達支持。

美國頃正執行之報告「全球化職能及經濟整合」(Global Competencies

and Economic Integration) 經研究發現 21 世紀的中小企業面臨嚴重的人力資源及文化資源取得的問題。高科技增加跨界人力的需求，使得缺乏全球化職能的人力資源，尤其是年輕人，無法如願找到理想的工作；相對來說，中小企業也難以找到足以面臨全球市場競爭的新員工。美國希望藉由此計畫尋找基本模式，以強化中小企業與年輕人的全球化職能。

越南報告新計畫「高等教育學歷採認:APEC 區域間最佳典範」(Higher Education Qualification Recognition: Best Practices in the APEC Region)。由於越南學子出國攻讀學位的比例越來越高，建立高等教育學歷採認機制，成為越南政府日益關注的議題。因為高等教育學歷採認將影響區域間勞動力跨境移動，採認標準牽涉當地教育、法律、文化及勞動力需求，期盼各經濟體分享經驗與彼此學習。中國大陸、韓國、泰國、美國及我國發言表達支持。

場次二：討論 EDNET 綜合性計畫

王燕博士提案討論「APEC 教育發展新聞報計畫」(APEC Newsletter: APEC Education Development)，期許前揭教育新聞報包含各經濟體教育基本資料、基礎教育、高等教育、技職教育、科學與技術教育及其他教育重要議題，同時反應重要的即時教育議題與報導。初步計畫成為月刊式出版品，作為 APEC EDNET 重要教育文獻與出版品。另外，新聞報亦將經濟體值得分享的教育人、事、物等好故事等列入專欄報導。美國詢問新聞報的刊行方式以及是否有存放之處，王燕博士回應將先以電郵傳遞，是否會有新聞報網站，端視後續成效再行決定。

王燕博士提案討論「APEC 教育與學習創新獎計畫」(APEC Prize for Excellence in Education and Learning Innovation, APLE)，預計選拔出 3 種獎項，分別為「APEC 年度最佳研究員獎」(APEC Researcher of Year)、「APEC 年度最佳教育從事者獎」(APEC Educator of Year)及「APEC 年度最佳學生獎」(APEC Student of Year)。任何經濟體的居民均可藉由經濟體的提名競爭這獎項。每年 APEC 主辦經濟體組織委員會，決定各獎項的得獎得主。經濟體可提名多位候選人，但自行編排其得獎優先順序。

提名資料要具體載明候選人得獎的具體事實及推薦原因。APEC EDNET 將組獎項審查委員會，由各經濟體及共同資助者提名擔任並共組委員會。目前仍在尋找共同資助者，期待各經濟體共同參與及建議。

王燕博士報告 APEC 教育策略行動計畫草案，作為未來 EDNET 提案的最高指導原則。經過 2 天的深度討論，三大目標「強化能力」(Enhancing Competencies)、「加速創新」(Accelerate Innovation)及「增進就業力」(Increase Employability)皆完成行動方案、觀測指標及推動計畫之草案。日後 APEC 教育策略行動計畫將藉由 EDNET 計畫的推動來達成，期待各經濟體共同參與並提出建議。

EDNET 國際協調人王燕博士及共同主席越南教育培訓部國際合作司范志強副司長總結會議結論，並感謝大家辛勞與參與，並將提供會議結論草稿供各經濟體過目及修正。

參、 主題研討會及工作坊

一、 APEC 教育策略行動計畫工作坊

(一) 會議時間：106 年 5 月 11 至 12 日（星期四、五）

(二) 會議地點：越南河內國際會議中心（NCC）

(三) 與會人員：

教育部國際及兩岸教育司藍副司長先茜

教育部國際及兩岸教育司陳教育副參事實鈴

臺北市立大學教育行政與評鑑研究所何教授希慧

(四) 會議議程（見下頁）

Workshop on Action Plan of APEC Education Strategy

11-12 May 2017 Hanoi, Viet Nam

Agenda

11 May 2017 (Thursday)	
09:00-11:30	Preparatory Meeting of the Task Force of APEC Education Strategy
11:30-13:30	Lunch
14:00-14:10	Introduction of Participants and Adoption of Agenda
14:10 -14:30	Welcome Remarks <i>Dr. Wang Yan, AEDNET Coordinator</i> <i>Mr. Pham Chi Cuong, Deputy Director General, International Cooperation Department, Ministry of Education and Training, Vietnam</i>
14:30-14:40	Group Photo
14:40-15:40	Global Perspective: Presentation by Guest Speakers <i>Ms. Maki Hayashikawa, Chief of Section, Inclusive Quality Education, UNESCO Bangkok Office</i> <i>Ms. Christina Schönleber, Deputy Director, APRU</i> <i>Ms. Asmaa Alfadala, WISE</i>
15:40-16:00	Tea Break
16:00-17:00	Advancing Education Collaboration and Development by Action Plan of APEC Education Strategy: Why? What? How? <i>Presentations by Representatives of Member Economies</i>
17:00-17:50	Group drafting of the Action plan
17:50-18:00	Day 1 wrap-up and preview of day 2 activities
18:30-19:30	Cocktail Reception
12 May 2017 (Friday)	
09:00-09:15	Welcome remarks and introduction of day 2 activities
09:15-10:30	Group drafting of the Action plan
10:30-10:50	Tea Break

10:50-12:30	Group drafting of the Action Plan
12:30-13:30	Lunch
13:30-14:30	Presentations on group drafting of the Action Plan
14:30-15:00	Priority discussion topics for the future EDNET meetings <i>Lead Discussant: Ms. Karen Welsh, Australia</i>
15:00-16:00	Tea Break
16:00-17:30	Final Review of the Draft Action Plan and Summary Report
17:30-17:40	Closing remarks <i>Dr. Wang Yan, APEC EDNET Coordinator</i> <i>Mr. Pham Chi Cuong, Deputy Director General, International Cooperation Department, Ministry of Education and Training, Vietnam</i>

(五) 會議紀要

本次工作坊由 EDNET 國際協調人(Coordinator)中國大陸王燕博士及越南教育培訓部國際合作司范志強(Pham Chi Cuong)副司長共同主持，共有澳洲、汶萊、智利、中國大陸、印尼、日本、韓國、馬來西亞、墨西哥、紐西蘭、巴布亞紐幾內亞、菲律賓、俄羅斯、泰國、美國、越南及我國等 17 個經濟體派員與會。

此次工作坊目標在於完成「APEC 教育策略 (Education Strategy)」之行動計畫 (Action Plan) 草稿並提出總結報告。前揭「APEC 教育策略」於 2016 年 APEC 第 6 屆教育部長會議 (AEMM6) 獲得通過，成為指引 APEC 區域至 2030 年之教育發展方針，並於本 (2017) 年 2 月於越南芽莊舉行之人力資源工作小組教育發展分組(EDNET)會議決議通過，規劃於今年完成行動計畫。

我國的產學合作議題於 APEC 已有多年發展之基礎，可作為其他經濟體參考之最佳典範，於 11 日之工作坊上，我國代表與馬來西亞 Dr. Habibah Binti Abdul Rahim (Deputy Director, Educational Planning and Research Division, Ministry of Education)及 Dr. Surrendren Sathasivam (Deputy director, Human Capital Development Section)同組，一同討論在「Objective 3: Increase Employability」下之「Instruments/tools; Projects/Initiatives」未來行動計畫之具體建議，並由我國代表報告討論內容。

12 日的工作坊確認所有經濟體皆提交小組討論的草稿內容後，EDNET 國際協調人王燕博士和越南共同主席范志強副司長即針對如何跨組整合、整合方式與分組細節進行討論。由於「增進就業力」議題備受各經濟體關注重視，我方提議以整合型方式進行討論，並為瞭解其他議題的發展方向與行動計畫規劃，爰何希慧教授維持留在「增進就業力」組，藍先茜副司長和陳寶鈴副參事轉加入「加速創新」組參與討論。

在「增進就業力」部分，由美國 Dr. Jadon Marianetti (International

Affairs Specialist, Department of Education)擔任召集人，何希慧教授與馬來西亞代表再次同組，並負責撰寫「Quality assurance and accreditation」子方案的目標與策略，且由我方報告前揭子方案內容。

在「加速創新」部分，除我方代表外，澳洲、紐西蘭、日本、韓國、中國大陸及印尼等經濟體亦共同就增進 STEM 教育、於學習與教學上增加使用 ICT、及促進產學合作及研發能量等子方案進行執行目標、指標、檢測工具與計畫等細項討論。各出席經濟體對教育與「創新」(innovation)二者之間咸表密切相關，爰 EDNET 與 PPSTI 預定於 5 月 13 日舉行聯合會議，各別經濟體亦提出教育創新之相關倡議，如日、泰已成功執行之 STEM 合作計畫，美國向來積極倡議增進女性參與 STEM 教育，我方與泰國亦將合作倡議自明年起辦理 STEM 師資培訓等。

本次工作坊最大特色之一即連結其他國際組織，如 UNESCO、APRU 及 WISE，報告未來教育願景的規劃架構及其具體執行策略，期許 APEC 在教育議題與其接軌，擴展影響力。所有行動計畫在全體經濟體代表共同討論並取得共識後即完成草案(詳如附件 1)，亦成為 9 月在中國大陸北京召開「定稿工作坊」接續細節討論之依據。

二、 未來工作與勞動市場變遷工作坊

(一) 會議時間：106 年 5 月 11 日（星期四）

(二) 會議地點：越南河內國際會議中心（NCC）

(三) 與會人員：

勞動力發展署蔡副署長孟良

勞動力發展署廖科長貴燕

勞動力發展署楊科長文治

勞動力發展署專案團隊陳助理研究員厚任

(四) 會議議程：（見下頁）

FUTURE OF WORK AND LABOUR MARKET IMPLICATIONS TENTATIVE AGENDA

Room 347, National Convention Center, Ha Noi 11 May 2017

Thursday, May 11, 2017:

- | | |
|----------------------|--|
| 08:30 – 09:00 | Registration |
| 09:00– 09:30 | Welcome Remarks
Mr. Doan Mau Diep, Vice Minister of Labour, Invalids and Social Affairs of Viet Nam
Mr. Malcolm Greening, Assistant Secretary, Dept. of Employment, Australia |
| | Photo Session |
| 09:30 – 10:00 | Keynote speaker
Future of work and labour market implications - An APEC Regional overview
Mr. Phu Huynh, Labour Economist, the International Labour Organisation |
| 10:00: 10:15 | Coffee Break |
| 10:15 - 11:15 | Session 1: Job creation in the digital age: opportunities and challenges
<u>Chair:</u> Ms. Le Kim Dung, Director General, ICD, MOLISA Viet Nam
<u>Co-chair:</u> Mr. Meng-Liang Tsai and Ms. Kuei-Yen Liao, CBN Coordinator
<u>Speakers:</u>
- Dr. Dao Quang Vinh, Director General of ILSSA – MOLISA, Viet Nam
- Ms. Le Thi Kim, Country HR Manager - ManpowerGroup Viet Nam
- Other economies and speakers to register
<u>Suggested Topics:</u>
- Opportunities and challenges caused by digitalization & rapid technological advancement
- What policy measures have been put in place to address those challenges
- Best practices/ programmes |
| 11:15- 12:00 | Q&A |
| 12:00- 13:30 | Lunch |
| 13:30 - 15:00 | Session 2: Labour market information system in the digital age – Challenges and Opportunities
<u>Chair:</u> Dr. Dao Quang Vinh, Director General of ILSSA – MOLISA, Viet Nam
<u>Co-chair:</u> Mr. Malcolm Greening, Assistant Secretary, Dept. of Employment, Australia
<u>Speakers:</u> |

- Mr. Vu Tu Thanh, Deputy Regional Managing Director & Representative, US – Asean Business Council
- Mr. Nguyen The Vinh, Member of Ha Noi People's Council, Deputy Director General of M Talent
- Standardization of English proficiency & IT literacy of skilled workers in the digital age: importance and solutions, Mr. Doan Hong Nam, President, IIG Viet Nam
- The ICT market in the digital age: opportunities and challenges, Ms. Nguyen Phuong Mai, Managing Director, Navigos Group Viet Nam
- Other economies and speakers to register
- Suggested Topics:
- Opportunities and challenges for labour market information in the context of digitalization and rapid technological advancement
- What policy measures have been put in place to address those challenges
- Best practices/ programmes

15:00 – 15:30

Q&A

15:30 – 15:45

Tea break

15:45 – 16:45

Session 3: Future of Work and Labour Market Information in the Digital Age- A Way Forward for APEC collaboration.

Chair: Mrs. Le Kim Dung, Director General of ICD- MOLISA, Viet Nam

Co-chair: Mr. Malcolm Greening, Assistant Secretary, Dept. of Employment, Australia

Speakers: Mr. Dao Quang Vinh & Mr. Nguyen Kim Phuong, MOLISA Viet Nam

Suggested topics:

- Priority actions for APEC Collaboration
- Implementation mechanism
- Timeframe

16:45 – 17:00

Closing Session

Closing Remarks by Ms. Le Kim Dung, Director General ICD- MOLISA Viet Nam

(五) 會議紀要

1. 本次會議由越南勞動、榮軍及社會事務部(下簡稱 MOLISA)次長 Mr. Doan Mau Diep，人力資源工作小組(HRDWG)能力建構分組(CBN)正、副國際協調人(CBN Coordinator)蔡副署長孟良與廖科長貴燕、LSPN 協調人 Mary Morola 擔任共同主席，旨在就未來工作與勞工市場之影響進行討論，MOLISA 次長 Doan Mau Diep 與澳洲就業部副主任秘書 Mr. Malcolm Greening 分別致開幕詞，後由國際勞工組織(ILO)勞工經濟學家 Mr. Phu Huynh 就 APEC 未來工作與勞動市場之影響進行專題演講。
2. 會議內容摘要如下：

主題為「數位時代下創造就業：機會與挑戰」，由人力資源工作小組(HRDWG)能力建構分組(CBN)正副國際協調人(CBN

Coordinator)蔡副署長孟良與廖科長貴燕擔任主持人，就數位時代下勞工市場所面臨之機會與挑戰、目前已採取相關措施和可行及有效之計畫等進行分享及綜合討論。

由 CBN 協調人蔡副署長致開場詞，強調數位化時代下，勞動力市場充滿挑戰與機會，根據 ILO 研究顯示，10 年後將有全球 5 億個工作機會消失，不過相對著，目前也有 38% 的企業表示無法找到合適員工，在在表現出職訓及技能提升於數位時代之重要性。

有關綜合座談部分，澳洲就業部副主任秘書 Malcolm Greening 表示，因現今勞動市場變遷快速，且影響層面廣泛，各領域從業人員須在一定時間內重新訓練，以因應此變局。此外，政策面也應隨市場變化適時調整，以符合實際需求。另，ILO 代表指出，人口老化、低生育率、氣候變遷等因素皆會影響勞動市場之變化。另外產業型態變遷亦會對獲取勞動市場資訊造成衝擊。CBN 協調人蔡副署長強調透過跨論壇合作與公私協力(Public-Private Partnership, PPP)共同探索就業問題的解決方案。

三、 APEC 技能教育訓練及社會保障工作坊

(一) 會議時間：106 年 5 月 12 日（星期五）

(二) 會議地點：越南河內國際會議中心（NCC）

(三) 與會人員：

國家發展委員會林處長至美

國家發展委員會賀專門委員麗娟

國家發展委員會黃專員毓芬

行政院性平處楊參議筱雲

行政院性平處陳科長嘉琦

勞動部林專門委員永裕

勞動部黃科長耀滄

(四) 會議議程：（見下頁）

As of 11 May 2017

**WORKSHOP ON SKILLS EDUCATION & TRAINING
AND SOCIAL PROTECTION**

Room 347, National Convention Centre, Ha Noi 12 May 2017

TENTATIVE AGENDA

Friday, May 12, 2017:

- | | |
|----------------------|---|
| 08:30 – 09:00 | Registration |
| 09:00– 09: 30 | Welcome Remarks
Mr. Doan Mau Diep, Vice Minister of Labour, Invalids and Social Affairs of Viet Nam
Ms. Mary Morola, LSPN Coordinator |
| 09:30 – 10:00 | Impacts of Digitalization and Industry 4.0 on Skills Education & Training
<i>Keynote speaker:</i> Dr. Horst Sommer, Programme Director of Programme Reform of TVET Viet Nam |
| 10:00 -10:15 | Coffee Break |
| 10:15 - 11:15 | Session 1: Impacts of Digitalization and Industry 4.0 on Skills Education & Training (continued)
<i>Chair:</i> Ms. Le Kim Dung, DG, ICD-MOLISA Viet Nam
<i>Co-chair:</i> Prof. Dong Sun Park, HRDWG Lead Shepherd
<i>Speakers:</i> <ul style="list-style-type: none">- Dr. Nguyen Quang Viet and Dr. Mac Van Tien, NIVT- Viet Nam- APEC Project DARE (Data Analytics Raising Employment): Employer Driven Competencies to Address Skills Shortages in the Digital Age, Mr. Christ Watson, the United States- Other economies/ speakers to be registered <i>Suggested Topics:</i> <ul style="list-style-type: none">- Opportunities and challenges for Skills Education and Training in the context of Digitalization & rapid technological advancement- What policy measures have been put in place to address those challenges- Best practices/ programmes |
| 11:15- 12:00 | Session 2: Skills Education and Training in the Digital Age – The Way forward for APEC Collaboration
<i>Chair:</i> Ms. Le Kim Dung, Director General of ICD– MOLISA, Viet |

As of 11 May 2017

Nam

Co-chair: Ms Mary Morola, LSPN Coordinator

Speakers: Dr. Nguyen Quang Viet and Mr. Nguyen Kim Phuong,
MOLISA Viet Nam

Suggested topics:

- Priority actions for APEC Collaboration
- Implementation mechanism
- Timeframe

12:00- 13:30

Lunch

13:30 - 15:00

Session 3: Social Protection in the Digital Age

Chair: Mr. Dao Quang Vinh, Director General, ILSSA, Viet Nam

Co-chair: Mr. Christ Watson, the United States

Keynote speaker:

- Mr. Richard Colin Marshall, Policy Adviser, UNDP Viet Nam

Speakers:

- Dr. Nguyen Thi Lan Huong, ILSSA – MOLISA, Viet Nam
- Mr. Vincent Huang, Chinese Taipei
- Inclusive Growth and Employment Insurance in the New Era: A Case of Japan, Dr. Nobuhide Hatasa, Associate Professor at Nagoya University of Economics
- Mr. Malcolm Greening, Assistant Secretary, Dept. of Employment, Australia
- Other economies/ speakers to be registered

Suggested Topics:

- Opportunities and challenges for Social Security System in the context of digitalization and rapid technological advancement
- What policy measures have been put in place to address those challenges
- Best practices/ programmes

15:00- 15:15

Coffee Break

15:15 – 16:15

Session 4: Social Protection in the Digital Age – The Way forward for APEC Collaboration.

Chair: Ms. Le Kim Dung, Director General of ICD– MOLISA, Viet Nam

Co-chair: The Lead Shepherd (tbc)

Speakers: Dr. Nguyen Thi Lan Huong and Mr. Nguyen Kim Phuong,
MOLISA Viet Nam

Suggested topics:

- Priority actions for APEC Collaboration
- Implementation mechanism
- Timeframe

16:15 – 16:30

Closing Session

Closing Remarks by Ms. Le Kim Dung, DG, ICD- MOLISA Viet Nam

(五) 會議紀要：

越南於 2017 年 5 月 12 於越南河內市(Hanoi, Viet Nam) 舉辦「APEC 技能教育訓練及社會保障工作坊」，各經濟體超過 70 名代表出席。會議邀請越南勞動部次長 Mr. Doan Mau Diep、HRDWG 勞動及社會保障分組(LSPN)協調人 Mary Morola 擔任開幕致詞，並邀請越南-德國「技術及職業教育訓練」(TVET)發展合作方案改革方案項目總監 Mr. Horst Sommer 進行開場專題演講，說明數位化和工業 4.0 對技能教育及訓練之影響。越南辦理本次工作坊的目的，在於針對數位時代 APEC 區域內技能教育訓練及社會保障重要議題進行討論，希望透過研討會的對話，共同研議數位時代下，對於技能教育訓練及社會保障的政策回應，尋求各經濟體共同合作的優先方案、推動機制及重要時程，透過經濟體代表的自願參與，達到集思廣益的效果。

研討會討論面向共分為 3 項主題，討論內容涵蓋數位化和工業 4.0、數位技能教育及訓練、數位經濟對勞動市場的影響、數位經濟下的社會保障制度及 APEC 經濟體的未來合作方向等，茲分別說明如下：

開場專題演講：數位化和工業 4.0 對技能教育及訓練之影響

開場主講人「越南-德國技術及職業教育訓練(TVET)發展合作改革方案」計畫總監 Mr. Horst Sommer 報告重點如下：

首先，簡介第 4 次工業革命，接著講到工業 4.0 及類似倡議，包括美國之「工業互聯網聯盟」(IIC)由 ATT、思科、通用電氣、IBM 及英特爾於 2014 年 3 月成立非政府組織，其目標為普遍開發新的互聯網技術，不侷限於工業部門，法國之「L'industrie du futur」計畫，由日本企業發起的「工業價值鏈倡議」(IVI)，中國大陸之 2015 年五年計畫，韓國之投資智慧工廠等。

之後，其針對勞動市場影響的一般假設、意義和預期，引用國際勞工組織(ILO)之「改變中心亞洲：面對自動化風險的未來工作」研究報告內容，包括東盟 5 國（柬埔寨，印尼，菲律賓，泰國和越南）約 56%的

工作具有很高的被自動化取代風險，而越南的自動化工作被取代概率最高（70%），且由於勞動力市場結構，在越南低技能初級職業在總就業中所佔的比率最高，具更高的自動化風險。研究報告的結論指出需要更高的技能水平。

而工業 4.0 作為 TVET 調整的相關驅動因素的趨勢，其趨勢 TVET 調整的工業 4.0 主要特定科技相關趨勢包括：網絡物理系統與物聯網、添加工藝與 3D 列印、機器人、Web 2.0 與/移動設備、穿戴裝置。而工業 4.0 主要交叉技術相關趨勢作為 TVET 調整的趨動力包括：數據保護和安全隱私、大數據、跨學科合作、創新靈活性與流動性。

在特定產業的改變過程例子部分，製造業和電子產業未來的趨勢和挑戰包括：IT 知識日益重要、控制和問題解決能力的需求、自動化過程中需要不同的職業學習、更多的學習必須在不同地點或虛擬環境、設計生產設施時需牢記應對學習的機會、企業與更多高等教育部門夥伴合作以訓練下世代的技術勞工，但沒有一定的標準、TVET4.0 必須發展出自有的概念，包括與高等教育合作的學習場地及整合資歷路徑的新夥伴關係，例如進階職業資歷。

最後是 TVET 在越南的挑戰，包括職業標準、自動化、彈性需求及如何與商業部門合作。

場次一：數位化和工業 4.0 對技能教育及訓練之影響

首先由越南國家職業教育研究院 Nguyen Quang Viet 博士報告，重點包括工業革命 4.0 對職業教育制度的影響、技職教育的重要議題以及技職教育的解決方案，在工業革命 4.0 的影響部分，工業革命 4.0 已經以超快的速度經歷廣泛的應用，為整個生產系統，管理和行政管理創造變革，勞動力市場隨勞動力供給需求質量和勞動力結構而不斷變化，現在的許多職務將被新的職務所取代。而在技職教育的重要議題方面，目前學習者的知識和技能不符合經濟 3.0 的需求，且對於促進新模式和新訓練方法的作為，尤其是針對 IT 產業，仍相當有限，現有教師的資格和技能亦可能被挑戰。最後是技職教育的解決方案部分，他認為可以透過培訓機構改革，包括改善教育機構的教師、學生及訓練活動政策、調整教師的

就業政策，以吸引具知識與技能等競爭力的教師，在技職教育體系提供服務，強化訓練活動和學校管理的自治，以符合科技發展及勞動市場需求等方式，以及透過管理的創新及應用、更新訓練活動、訓練制度與企業的合作與連結、持續檢視未來的技能需求、技職教育的國際合作來解決。

接著由美國勞工部 Mr. Christ Watson 報告 APEC 數據分析提高就業 (DARE) 方案，此方案係以雇主驅動能力解決數位化時代的技能短缺，為青年準備數據未來，APEC 秘書處執行長 Dr. Alan Bollard 在今年 5 月 4-5 日 DARE 會議上表示，APEC 區域需專注於服務，電子商務和數據移動，這也意味著協議、協調與技能。而 Data Science and Analytics (DSA) 被定義為從數據中蒐集，分析和得出實際結論的能力，並將數據發現傳達給他人。DARE 項目是由美國（美國勞工部）提出的倡議，獲得澳洲、馬來西亞、日本、秘魯、越南及我國支持，並成立 DARE 諮詢小組，以發展「APEC DSA 能力建議」。目前 APEC DSA 能力建議項目包括商業和組織技能及技術性能力，前者是指操作分析、可視化和演示數據、數據管理與治理、主要知識與應用的能力，而後者則指統計技術、電腦計算、數據分析方法和演算法、研究方法、數據科學工程原理等。而在工作場所技能部分，應要發展 21 世紀的技能，展示各級 DSA 必不可少的跨學科技能，包括但不限於：合作、溝通和說故事、道德觀念、組織意識、批判性思維、規劃和組織、解決問題、決策、客戶關注、靈活性、業務基礎、交叉文化意識、社會和社會意識、動態（自我）再熟練、專業網絡和企業家精神。下一步規劃通過 HRDWG、ABAC、ASCC 等人員，分享 APEC 廣泛推薦的 10 個 DSA 能力，以提高雇主對該地區短缺和 DSA 能力的認識。配合召開研討會，與學術機構、職業培訓計畫和其他利益相關者分享能力，並提供諮詢小組如何實施鑑定能力的工具和最佳做法。

場次三：數位時代的社會保障(場次二取消討論)

首先由聯合國越南發展方案政策顧問 Richard Marshall 報告「數位時代的社會保障：保障 APEC 中等收入經濟體的擴張及融合」，他指出

新科技帶來勞動關係不穩定，對供應鏈生產等影響，也對社會保障產生影響，尤其非正式性之影響。例如拉丁美洲仍有高比例非正式就業。而數位化及科技也影響非正式就業，經研究發現越南 77%工作受到數位化影響。且需強調社會保障可對社會帶來報酬，有助提升包容性成長，重視中等收入國勞動市場多數為非正式工作及處於風險，以及社會保障對中等收入國家減貧之重要性，這又包括保障對象不足，社會保障制度移轉所得程度低及保障範圍有限，與社會保障支出低。他並建議可透過科技及數位化提高社會保障之服務輸送，例如電子服務。

接著越南勞動部 Dr. Nguyen Thi Lan Huong 就「數位時代對於勞工的永續社會保障制度」進行報告，報告重點在於如何處理新科技導致的勞動市場新風險，重點內容有新科技可能產生的風險以及處理新風險之社會保障制度，前者包括風險來自新科技可能導致大量解僱之風險，影響社會保障制度之變動、增加彈性工作安排及工作不確定性、變動勞動關係及勞資關係，勞動契約及團體協約如何因應、增加不平等，尤其是低技術勞工與高技術勞工之間，例如薪資、勞動政策長期上如何縮短不平等、弱勢族群增加、進一步擴大 APEC 區域內不同國家不平等，對發展中國家可能損失比較利益以及衝擊勞工移動力，例如越南與鄰近國家之間勞工移動等。而後者則包括如何創造尊嚴勞動、社會保險如何維持強制保險、就業保障方面，大量失業需要讓失業保險改為就業保險、社會投資模式焦點應放在社會保障政策之產出，而非投入、打造基本社會保障(SPL)之必要性，ILO 建議建立最低所得保障、未來應改變社會救助對象及財務、並應運用大數據監督變遷、有關社會保障之新型態及內容，係為達到聯合國永續發展目標(SDG)3.1 目標以及 ILO 建議、越南提出新區域倡議，建立區域內經濟體社會保障機構之網絡，並進行兩年期比較研究、對 APEC 而言，許多經濟體尚未達到普及性社會保障等。

會中我國代表勞動部黃耀滄科長報告我國數位時代勞工社會保障制度的推動經驗與成果，日本代表 Dr. Nobuhide Hatasa 介紹 JANCPEC 研究計畫及日本就業保險制度運作，澳洲代表 Mr. Malcolm Greening 則說明社會保障的意義及價值，並進行 Q&A。

場次四：數位時代的社會保障—APEC 合作的進一步方向

越南勞動部代表 Mr. Nguyen Kim Phuong 針對推動未來 APEC 就數位時代的社會保障議題進行合作，提出相關建議，在合作方式上，建議要進行 APEC 現況的共同研究與資訊蒐集分享、政府與利害關係人政策討論與數位經濟新議題合作方案，而在建立合作平台方面，可透過現有 HRDWG 及相關計畫建構合作平台，推動合作，以及透過共同研究、代表對談及社會對話強化合作；最後是推動時程部分，建議於 2017 年至 2030 年間，於 HRDWG 檢視及推動相關計畫，並促進與 APEC ECGS, GOS 及 PPSTI 等次級論壇合作。

會議結論

促進 APEC 區域內教育合作、能力建構及勞動與社會保障，是 HRDWG 的重要目的之一，研討會由政府、企業及公民社會共同參與及討論數位時代社會保障的前瞻作為，透過各方充分表達及溝通，並分享經驗與想法，最後提出推動未來 APEC 就數位時代社會保障議題之合作方向，建議於 2017 年至 2030 年間，於 HRDWG 檢視及推動相關計畫，並促進與 APEC ECGS, GOS 及 PPSTI 等次級論壇合作。

四、 APEC 技能與工作資歷相互認證與區域合作研討會

(一) 會議時間：106 年 5 月 13 日（星期六）

(二) 會議地點：越南河內國際會議中心（NCC）

(三) 與會人員：

勞動力發展署蔡副署長孟良

勞動力發展署廖科長貴燕

勞動力發展署楊科長文治

勞動力發展署專案團隊陳助理研究員厚任

國家發展委員會賀專門委員麗娟

(四) 會議議程：(見下頁)

**APEC Workshop:
Studies for Enhancing Mutual Recognition and Regional Cooperation
for Skills and Job Qualifications in the APEC region**

13 May 2017, 14:00-18:00 (followed by cocktail dinner)
2nd floor (Room 219), National Convention Centre,
Ha Noi, Viet Nam

#	Time	Activity	Main Speakers
	14:00 - 14:30	Registration and Arrival	
1	14:30 - 14:40	Opening Session 1. Project Overseer describes the value of mutual recognition of skills and job qualifications, and current capacity building efforts. 2. Remarks from CBN Coordinator	1. (TBD), APEC Office, Ministry of Economy, Trade and Industry (METI), Japan 2. Mr. Meng-Liang Tsai, Deputy Director General, WDA, Ministry of Labor.
2	14:40 - 15:00	Research Presentation "How far have we come? A big-picture view of current initiatives and best practices" Project researchers will present an overview of current initiatives and capacity building efforts to promote the mutual recognition of skills and job qualifications among APEC member economies.	Mr. James Tetlow, Senior Research Analyst Mr. Takahiro Nakamura, Research Analyst Washington CORE
3	15:00 - 16:50	Presentations from Speakers Each invited speaker will present an initiative in his/her economy, with insights on the project background, and noteworthy achievements in the areas of skills recognition initiatives and capacity building efforts. - MRAs, Engineering Mobility, the Australian Experience - Chinese Taipei's Occupational Competency Standards (OSC): Concurrent and Outlook - Promoting MRAs in ASEAN: Experiences of Vietnam - IT Engineers Examination - A model case of enhancing skill recognition and capacity building for IT professionals in ASEAN region -	Speakers: - Mr. Glen Crawley, Registrar, Professional Standards, Engineers Australia [Australia] - Prof. Jen-Chia (Richard) Chang, National Taipei Univ of Technology [Chinese Taipei] - Mr. Nguyen Anh Duong, Deputy Director of Macroeconomic Policy and Integration Studies Dept., Central Institute for Economic Management (CIEM) [Viet Nam] - Mr. Kenji Ogawa, VP of IT HRD-HQ, Information-technology Promotion Agency (IPA) [Japan]
4	16:50 - 17:00	Coffee Break (Question sheets for panel will be collected)	N/A

#	Time	Activity	Main Speakers
5	17:00 - 17:30	Q&A Panel Session Questions from the floor on the speakers' topics or research output will be welcomed. Participants can also bring up his/her own experiences and share the common challenges they face in implementing mutual recognition arrangements, and how to best overcome these challenges.	Washington CORE Speakers Participants
6	17:30 - 18:00	Final Thoughts & Feedback for the Studies Project researchers will summarize the essence of the discussion, which will support the recommendations in the final project report. Participants are kindly requested to complete a feedback questionnaire about the workshop.	Washington CORE
7	18:00 - 19:00	Welcome Cocktail	N/A

(五) 會議紀要：

本次會議由日本經產省主辦，由 CBN 國際協調人勞動部勞動力發展署蔡副署長孟良及日本經產省 APEC 辦公室副主任 Harumi Murakami 致開幕詞，並由日本經產省 APEC 辦公室專案團隊美商 Washington Core 顧問公司資深研究員 Mr. James Tetlow 主持本研討會，旨在就 APEC 技能與工作資歷相互認證與區域合作進行研究探討。

會議內容摘要如下：

開幕場次

由 CBN 國際協調人勞動部勞動力發展署蔡副署長孟良致開幕詞，感謝日本經產省辦理此次研討會，以及國際顧問團隊 Washington Core 進行國際技能與工作資歷相互認證研究，同時也感謝各經濟體代表出席，期望藉由交流討論，APEC 區域經濟體對證照相互採認以及技能與工作資歷相互認證議題更加有所進展，回應 2017 APEC 主題及優先領域，希望透過各經濟體專家交換意見，促進 APEC 區域人才流動，提升 APEC 勞動力市場於數位時代的競爭力。

日本官方代表經產省 APEC 辦公室副主任 Harumi Murakami 致詞特別感謝我方勞動部勞動力發展署，協助日方進行國際技能與工作資歷相互認證研究，藉由召開專家會議，由產官學界代表出席，向日方研究員分享我國目前職能基準發展近況，對研究進展助益甚大。

場次一：檢視現階段倡議及措施

由日本經產省專案團隊美商 Washington Core 顧問公司資深研究員 Mr. James Tetlow、研究員 Mr. Takahiro Nakamura 就現行技能與工作資歷相互認證倡議及相關措施進行報告，其中特別感謝我方對於其研究的貢獻。

場次二：經濟體報告技能與工作資歷相互認證倡議與成果

由澳洲代表 Mr. Glen Crawley 分享工程師跨境移動案例、我方代表

臺北科技大學張仁家教授分享我方職能標準之演進，澳洲代表 Mr. Glen Crawley 分享工程師跨境移動案例、我方代表臺北科技大學張仁家教授分享我方職能標準之演進與展望、越南代表 Mr. Nguyen Anh Duong 分享在 APEC 平台下推動雙邊認證協定經驗、日本代表 Mr. Kenji Ogawa 分享 APEC 下加強資訊工程師技能認證和能力建構之案例。我方代表張教授舉我國億光電子做為業界最佳範例，介紹業界發展之職能基準架構，另外也分享勞動部勞動力發展署發展成果，統整產官學界意見建置職能基準架構，建立 iCAP 網站，公布目前已建置之 284 個職類之職能基準。目前為加速我國職能體系之建立，在規劃職能基準建置時，爰引進澳洲及日本等跨國職能單元，做為我國職能基準發展之參考，促進與國際接軌。

場次三：Q&A

由 Washington Core 團隊、講者及與會代表進行提問和答覆，共同針對相互認證安排所面對的挑戰和解決方法分享經驗及討論。席間有鑑於日本資訊處理推進機構，就 IT 工程師工作及資歷相互認證行之有年且成果豐碩，CBN 副國際協調人廖科長貴燕，就政府或私部門如何發展具有公信力之技能檢定題庫，向日本 IPA 代表 Kenji Ogawa 提問，Ogawa 先生回答題庫更新維護相當關鍵，目前 IPA 每年進行題庫更新，並組織題庫更新委員會，邀請產官學界擔任委員，檢視更新既有題庫，確保題庫適切性，反應真實業界需求。另澳洲代表 Mr. Glen Crawley 也就澳洲工程師協會的經驗發表意見，越方及 APEC 企業諮詢委員會(ABAC)代表皆於此階段提問發言，各經濟體討論熱烈。

閉幕場次由 Washington Core 團隊就會議討論內容進行總結，並由與會代表針對本研討會填寫意見調查表作為參考。

五、 APEC 觀光職能基準發展計畫工作坊

(一) 會議時間：106 年 5 月 17-19 日（星期三-五）

(二) 會議地點：越南河內國際會議中心（NCC）

(三) 與會人員：

勞動力發展署蔡副署長孟良

勞動力發展署廖科長貴燕

勞動力發展署楊科長文治

勞動力發展署專案團隊陳助理研究員厚任

(四) 會議議程：（見下頁）



Thursday 18th May

Item	Time	Topic	Responsible
6	09.30am	<i>Muong Thanh site visit</i>	
	12.00pm	Lunch	
7	1.30pm	<i>RTO site visit</i>	
	5.30pm	Session close	
8	6.00pm	Final workshop dinner	Hosted by SkillsIQ

Friday 19th May

9	09.00am	Final validation of occupational standards – 3 job roles (1 hour each) <i>Discussion of feedback of core and elective standards for each job role. Final versions agreed.</i>	All
	12.00	Lunch	
10	1.00pm	Implementation Discussion <i>Discussion regarding plans to use the APEC Tourism Occupational Standards in each country</i> <i>Support resources that would assist in the implementation/ including companion volumes</i>	All
11	2.30pm	Remarks from CBN Coordinator on APEC priorities underpinning this project Technical Policy Discussion on the APEC Occupational Standards Framework (OSF) <i>Discussion regarding Working Group member experiences implementing/following the APEC OSF; what worked well, what didn't, any recommendations for change ahead of proposing to the Human Resource Development Working Group that this approach is adopted for developing occupational standards in priority industry sectors to support improved recognition of skills across the region.</i>	Chinese Taipei Government Australian Government
	3.30pm	Workshop Close	

(五) 會議紀要：

1. 本次會議由 APEC 觀光職能基準建置之核心經濟體，我國、澳洲、秘魯、菲律賓、泰國及越南聯合舉行，並由澳洲教育及訓練部、秘魯外貿觀光部(MINCETUR)及澳洲教育及訓練部專案團隊(SKILLSIQ)代表進行開幕致詞。
2. SKILLSIQ 代表報告本計畫工作坊，著眼於觀光、旅遊、餐飲及旅館服務業職類職能基準，帶領各經濟體檢視該計畫架構、各階段進程及包含 6 項職類主要核心基準及選擇基準。該 6 項職類分別為廚師、調酒師、旅遊顧問、專業協調人、櫃台人員、房務員。
3. 各經濟體代表報告其職能採認執行成果，我國由勞動部勞動力發展署蔡副署長孟良偕同台北市旅行商業同業公會(TATA)張理事嘉齡，以旅遊諮詢顧問職業的採認進程為例進行簡報，介紹參與角色，包括 TATA、學者、旅遊業從業人員及觀光局，藉由發放問卷了解相關回應，進行觀念灌輸建立、旅遊業訓練師心態調整、課綱重新編修等。後續做法為協助產業評估現有經營模式、協助培訓必要從業技能、建立旅遊業人才資料庫、產業升級包含旅遊產品服務升級，以取得市場認可及提升觀光產業競爭力。張理事並報告經此作法我國已培訓出 180 位符合產業資格需求旅遊業執業人員。
4. 各經濟體代表於會議第 2 日(5 月 18 日)，實地考察觀光相關職類人力資源培訓，參訪 Muong Thanh(孟清)國際旅館及越南觀光職業學校。
5. 第 3 日(5 月 19 日)各經濟體續討論核心基準及選擇基準，並確認最終優化之上開 6 項職類職能基準。後續討論觀光職類職能基準計畫如何於其他經濟體內部執行、相關推動上，可提供之資源協助。
6. 勞動部勞動力發展署代表蔡副署長孟良與廖科長貴燕，以人力資源發展工作小組(HRDWG)能力建構分組(CBN)副國際協調人

身分向大會報告，表示將逐步推動澳洲觀光職能基準發展計畫，期許明(2018)年將本計畫推動成果向 CBN 分組會議報告，舉辦工作坊及相關會議，獲得 CBN 分組支持。下一步將 APEC HRDWG 及 APEC 觀光工作小組(Tourism Working Group, TWG)報告，期許此兩組採納觀光職能基準架構，並進行跨論壇合作。下一階段將為明年 7 月舉辦工作坊，邀請主要關鍵夥伴出席，與澳洲先前提出之「運輸物流職能基準計畫」結合，以觀光及運輸兩個產業當作領頭羊，引導其他產業走向及發展。之後，再於明年 9 月第 7 屆人力資源部長會議(HRDMM7)期間舉辦工作坊，提出倡議，當作 HRDWG 於部長會議之貢獻，最終期能把所有產業納入，實施後，各經濟體也能反應該國執行上之機會與挑戰，了解並持續精進此計畫。另表示我方將與澳洲合作，攜手共同逐步推動建置亞太職能基準架構。

7. 澳洲政府就 APEC 職能基準架構(OSF)之技術政策層面提請討論，包含運作經驗分享、優良及不適之作法、相關建議事項，以便此計畫之後於人力資源發展工作小組(HRDWG)正式提出，改善區域間主要職類職能基準技能採認。

肆、心得與建議

一、國發會龔副主委率團參與人力資源發展高階政策對談，與各國代表探討數位時代對人力資源發展的衝擊

今年 APEC 主辦經濟體越南相當重視人力資源發展議題。本次中華台北代表團由國發會龔副主委率團，一行共 12 人與會，本次會議共有來自 21 個經濟體的高階政策官員與會，針對第 4 次工業革命對工作型態的衝擊、應運而生的技能教育與訓練需求及社會保障措施等層面研商，會後並發布「數位時代下人力資源發展架構」，作為因應科技變遷的人力資源發展政策指導，並呼籲 APEC 經濟體共同合作，進行相關議題的合作與研究。

國發會龔副主任委員明鑫於大會議期間，分別就我國數位人才發展策略、我方今年預計在台舉辦「APEC 推動包容性成長-公平就業機會政策及其實踐研討會」及「APEC 技能建構聯盟：數位時代技能提升」計畫，分享我國在數位經濟時代的人力發展經驗，充分展現我國積極參與 APEC 事務的態度。

二、積極參與並擔任重要職務，提高我國國際能見度

我方代表 CBN 國際協調人蔡副署長孟良及廖科長貴燕，分別受邀於 5 月 11 日籌備 HLPD HRD 系列研討會中之一 Future of Work and Labour Market Implications 場次一 Job Creation in the Digital Age 擔任主席，及 5 月 15 日高階政策對談，第二場次促進關鍵利益者共同參與人力資源發展 Round 2：技能培訓，擔任主持人，貢獻良多。另勞動部黃科長耀滄亦於 5 月 12 日受邀於 HLPD HRD 系列另一研討會 Skills Education and Training and Social Protection 第三場次擔任講者，顯示我方於 APEC 會議中擔任重要職務，有助於提高我國之國際能見度。

另外，我國響應澳洲 APEC Labor Mobility Framework 計畫，並由國家發展委員會黃毓芬專員及勞動部黃耀滄科長擔任澳洲方案諮詢團隊

(Project Advisory Team)成員，且積極參與 5 月 15 日人力資源發展高階政策對談會後發布的 the APEC Framework on Human Resources Development in the Digital Age 撰擬，並提供多項修訂意見，多項獲得採納。

三、臺泰 APEC 提案合作共創佳績，我國產學合作計畫回響熱烈

本次會議期間我國與泰國共提 STEM 合作案及我國產學合作案均順利獲得經濟體支持成案，美國、中國大陸、日本、韓國及新南向國家印尼、菲律賓、新加坡、泰國及越南均分別發言支持我國前揭提案，顯見我國新倡議內容深獲肯定認同，獲得主要經濟體及新南向目標國家支持。工作坊期間，我教育部代表團與泰國教育部代表團共商臺泰 APEC STEM 合作新倡議，泰國教育部原則同意我方所提計畫，此倡議將爭取今年 APEC Central Funding-Session 2，泰國教育部及外交部將全力支持。

因此有關本次會議教育部獲得支持成案之產學合作及臺泰 STEM 提案皆將申請爭取今年 APEC Central Funding -Session 2，並規劃於 2018 年行動計畫，維繫我國於 APEC 人才培育領域之積極貢獻與延續我國過往累積之成果效益。前揭 2 提案將於 HRDWG 內互評後，送 APEC 預算管理委員會(BMC)，屆時請外交部協助爭取 APEC Central Funding。

四、善用與會契機，加強雙邊交流

本次會議期間，我國代表於參與各會議時均積極與其他經濟體代表交流，國發會龔副主委善用高階政策會談時場邊活動機會，與澳洲、中國大陸、印尼、日本、新加坡、美國、泰國及越南等經濟體，以及人力資源工作小組總主席韓國籍 Mr. Dong Sun Park 及巴紐籍勞動與社會保障分組協調人 Dr. Mary Morola 進行交流，而勞動部代表亦善用會後時間與越南及巴紐進行雙邊對談，並於會議期間與澳洲就業部國際策略資深官員 Mr. Jabulane Matebula 與澳洲就業部助理次長(Assistant Secretary)

Mr. Malcolm Greening 就臺澳雙方推動勞工事務雙邊合作現況、我青年在澳度假打工保障及未來方向交換意見，以及與美國勞工部國際事務局亞太資深顧問 Mr. Christopher Watson 就臺美勞工事務交流合作現況及未來推動方向交換意見，未來將就勞動條件權益保障、協助弱勢就業及促進女性就業及健康等議題進一步交流及合作，並與國際勞工組織(ILO)研究員 Mr. Phu Huynh 於會中互動交流，針對我國加強東南亞投資、勞動人口往來及全球供應鏈與包容性成長等議題交換意見。

教育部代表團不僅與泰國代表團就 STEM 進行雙邊正式會談，亦與今年 APEC HRDWG 共同主席越南勞動部國際合作司黎金容司長、EDNET 共同主席越南教育培訓部國際合作司范志強副司長於場邊進行非正式會談，相談甚歡。HRDWG 主事國主席(Lead Shepherd)朴銅先(Prof. Dong Sun Park)亦將於今年 6 月應教育部邀請訪臺，本部將持續透過 APEC 區域國際組織平臺，增進我國與 APEC 相關論壇主席之友好關係，並深化與目標國家之雙邊合作。

五、深度參與 APEC 重要文件，具體融入我國優先目標

我國代表積極參與各項 APEC 重要文件，包括對今年人力資源發展高階政策對談會後發布之「數位時代之人力資源發展架構」提供相關意見，並加入了澳洲主導的勞動力跨境流動架構諮詢小組，而 APEC 亞太技能建構聯盟計畫，業已納入 2016 年度領袖宣言及部長聯合聲明。

甫於去年第 6 屆 APEC 教育部長會議通過之「APEC 教育策略」(APEC Education Strategy)，係為形塑 APEC 區域間至 2030 年之教育目標文件，並規劃於今年發展具體行動計畫(Action Plan)。鑒於 APEC 教育策略作為 APEC 區域間重要教育文件，乃是我國能將自身優先目標融入區域之重要機會，教育部不僅積極參與編纂「APEC 教育策略」及其行動計畫，同時推派學界及政府官員代表參與相關文件任務小組及審議小組。APEC 教育策略行動計畫現規劃於今年 9 月於中國大陸北京舉行定稿工作坊，為能有效落實我國優先目標成為行動計畫內容，將我國重要

教育政策及利益融入區域國際組織，具體促進我國於國際多邊組織平台之貢獻，並持續累積參與動能，增進與教育先進經濟體之互動，強化與新南向國家教育部門之合作。

APEC 為我國少數得以正式會員身分參與之政府間國際區域組織，往後亦將持續積極參與，以實際行動作出貢獻，提升我國國際能見度。

附錄 1： APEC 教育策略行動計畫草案

Action Plan of APEC Education Strategy

First Draft

(May 15, 2017)

I. Preamble

There is strong evidence that education has a significant impact on economic activity, social wellbeing and innovation and growth. Investment in education and training, regardless of gender, race, religion, or ethnic background increases the speed with which an economy develops. Participation in education increases equity, improves social cohesion, and produces better health outcomes. Education and lifelong learning also increases cultural understanding and promotes international engagement and people-to-people links across all walks of life.

The Action Plan of APEC Education Strategy will translate the mandates from APEC Education Strategy endorsed by the 6th AEMM held at Lima, Peru last year highlighted revolving the pillars of competencies, accelerating innovation and increasing employability into targets and indicators as well as instruments and tools in the light of the regional challenges of social and economic development as well as the fourth industrial revolution.

The Action Plan is aligned with previous APEC Leaders' Declaration, as well as related regional and global initiatives such as UN SDGs, in particular SDG 4 and Education 2030 agenda as well as other APEC regional initiatives like BOGOR Goals

II. Vision and Objectives

2.1 Vision

By 2030, APEC will have a strong and cohesive education community characterized by inclusive and quality education that supports economic growth and integration and social well-being in the APEC region.

2.2 Objectives

- Take a collaborative and strategic approach to the work of projects
 - Consider shared priorities and opportunities for joint projects which promote economic development in the APEC region
 - Identify priorities of shared interests
- Make clear the link between education and skills, economic development and pathways to employment.
 - Identify the specific themes to focus on.
 - Keep focused on the key themes which link to economic development in the APEC region
- Develop a mechanism to identify and promote best practice
 - find tools and instruments to measure effectiveness
 - monitor and track our progress
 - develop a framework for transparency, benchmarking, measurability
- Ensure a strong and evidence base to underpin education work including academic rigour and thorough policy focus

III. Targets and Indicators

3.1 Enhancing competencies

Economies will establish pathways between and among qualification frameworks for every economy, consistent with their domestic policies.

- Economies will be encouraged to develop qualification frameworks, with short-term targets of having half of the economies with qualification frameworks and of increasing the number of economies who have established pathways between and among qualification frameworks.
- By 2030, economies will set up an APEC Qualification Recognition Framework (APEC QRF) that will harmonize existing agreements within the economies, and institutionalize the process of developing the QRF in every economy.
- Moreover, economies will create assessment mechanisms for postgraduate students on the basis of a portfolio of realized projects during their education period by 2025.

Members will adopt a common quality assurance system in the APEC region.

- Half of the economies will have formal mutual recognition of quality assurance systems and credits, diplomas, and certification by 2020.

APEC member economies will work to increase access to educational courses and programs available online.

- Increasing the number of courses provided in different areas of knowledge and educational levels and the percentage of students enrolled in online courses, especially students with disabilities enrolled in online courses.
- Adapt courses to local languages according to the needs of their learners.

APEC member economies will work to increase the number of exchange and network programs that are available.

- Increase number of participants who take part in such programs.
- Increase the number of cross-border scholarships.

APEC member economies will work to ensure that all learners in Asia-Pacific region have equal access to education, through improved infrastructure.

- Increased number of educators who have taken professional development courses in order to provide high quality inclusive education;
- Improved access to education for underrepresented populations.

Members will also promote highly motivated and effective teachers and school leaders.

- Increased access to advisors who support students' development of competencies for academic and professional careers
- Increased access to educator mentorship programs and professional development programs for teachers
- Increased access to student leadership.

3.2 Accelerate Innovation

To accelerate innovation we need to encourage greater participation in STEM subjects by students in our schools and universities, in particular, supporting increased take up by women and girls.

- Increased percentage of students studying STEM subjects in schools and universities
- Increased percentage of women and girls studying STEM subjects in schools and universities

- Increased number of government policies and frameworks focusing on accelerating innovation particularly for women and girls
- Increased exchange of best practice in innovative approaches to engage in STEM

There is also a need to support improved access to ICT for our populations, including those who live in rural areas, and other members of our communities that may face challenges in accessing traditional forms of education.

- Increased uptake and completion of online, blended and flexible learning

Government policy and regulatory settings should support the development of high quality online learning

- Increased sharing of knowledge on policy and regulatory settings to support the development of online learning

APEC member economies should share best practice in STEM education across APEC economies, and with other regional and global fora, where necessary, adapting to local contexts.

- Increased cross fora projects and engagement with other global forums to accelerate education innovation.

We should support innovative approaches to ICT which will grow our capacity to deliver high quality education, and make best use of our existing resources. This includes developing our human resources to make best use of technology, upskilling our teaching workforces, and harnessing the enthusiasm of our communities to develop innovation.

- Increased exchange of best practice on innovative approaches to developing university academic staff skills in online and blended learning pedagogies
- Increased exchange of best practice to develop teachers' capacity in use of ICT in the classroom and effective strategies for teaching STEM

We should develop greater collaboration through Industry-research links and community engagement.

- Increased number of research-industry collaborations

3.3 Increase Employability

Link with the productive sector to enhance labor market forecasting (educating for the jobs that will exist)

- The increase of PPP projects and cooperation schemes signed by 2020 and beyond.
- The number of students who participate in on site practices and training might also be measured continuously.
- Number of students who gain a new or better job related to the company where they had their practical training.

Flexible curriculum and alternative pathways for technical and vocational education that also enhance soft skills.

- The percentage of students who have access to technical and vocational and/or higher education as a result of projects supported by EDNET.
- The number of graduates with new or better employment from projects supported by EDNET.

Promoting internships, dual-training models, entrepreneurship career planning—at all levels of education; Increase Access to TVET and/or Higher Education (technically related)

- The number of graduates with new or better employment from projects supported by EDNET.
- The percentage of students who have access to technical and vocational and/or higher education will increase by 2020, in line with the Bogor Goals, through workshops, projects or similar events supported APEC.

In doing so, hopefully TVET students' skills are enhanced to serve rapid shifts in skills demand by the industries for the next 20-30 years.

IV. Instruments/Tools and Projects/Initiatives

4.1 Enhancing Competencies

APEC member economies will consider projects that identify and promote common quality assurance standards or frameworks as well as an APEC Qualification Reference Framework and/or skill recognition, and share information about such frameworks through accessible online databases.

Members will promote collaboration of professional bodies and industry groups to share occupational standards through mutual recognition agreements in common professional jobs/occupations and an available database.

Members will promote recognition of educational and training institutions in the member economies, potentially through an accessible list of recognized educational and training institutions.

Members will also study the effectiveness of collaboration between educational and training institutions and make recommendations on the common best practices in cross-border education. Economies may also develop and share common learning resources for educational institutions that are accessible to all members.

APEC member economies will also seek to secure funds for academic exchanges for member economies' teachers and students to study and learn abroad.

APEC member economies may promote information sharing through an online database of economies' education policy documents.

Members may also develop best practices in the teaching profession through enhanced technologies in training and qualification of teachers; through attracting teachers' minority groups, rural students, and other underserved populations; and through promoting the use of local and native languages.

Members will promote best practices in school management, through potential projects that focus on training school leaders, developing a competency framework for school leaders, and enhancing instructional leadership in the classroom.

APEC member economies will seek to enhance student learning, through potential projects around e-learning and open courseware in student-centered education materials, innovative approaches to teaching and teacher assessment, and activities that enhance equitable education for all.

Members will also consider projects that promote quality, competency-based lifelong learning for everyone to reach their full potential.

4.2 Accelerating Innovation

A range of approaches may be used to deliver outcomes in line with the proposed targets, which may include initiatives at the level of national, institutional, policy and regulatory settings; initiatives designed to build knowledge and human resource capacity such as seminars, workshops and conferences; as well as policy dialogues both within APEC member economies and involving international networks and collaborations.

Frameworks, research and best practices pertaining to the innovative use of information and communication technologies of ICT in education that are sensitive to the need to maintain soft skills and global competencies.

Initiatives will support the development of high quality STEM education, including teacher education, development of curriculum and pathways. We will consider initiatives which use digital and distance learning platforms to provide flexible learning opportunities in higher education and TVET. Others will seek to bridge the digital divide by offering lifelong digital learning skills for technologically underserved populations. We will look at initiatives which leverage cutting edge new technologies to improve educational outcomes. We will promote scientific literacy, teacher competencies in STEM and innovative teaching strategies with a focus on women and girls as part of the EDNET workplan.

Initiatives that support expansion of government, industry and research partnerships to deliver greater innovation in education will be addressed in the EDNET work agenda.

4.3 Increase Employability

Employability of graduates from both higher education and technical vocational education and training is a concern across APEC economies. With the on-going shifts in the labor market because of the 4th industrial revolution, the education and training sector needs to be more adaptable and creative in ensuring student's success in finding new or better employment.

In order to promote the linkage between higher education institutions and local and national industries, APEC education authorities will strengthen and expand their partnership with local and national chambers of commerce, and advance their cooperation under PPP (public-private partnership) schemes so that the curricula of higher education institutions may better adapted to the needs of employees. Students will be encouraged and supported to conduct their professional practices on site at the productive sector, to increase their chance for better employment as well as better payment.

In order to facilitate the development of 21st century competencies for work and entrepreneurship APEC promotes flexible curriculum and alternative pathways for technical and vocational education that also enhance creativity and the development of soft skills. Starting from the agreement of this Education Strategy Action Plan, APEC economies will share best practices, and promote policies and projects that achieve this goal by 2020—in accordance with the Bogor Agreement. An intermediate result or output

of these policies and projects could be the percentage of students who have access to technical and vocational and/or higher education as a result of projects supported by APEC. The outcome indicator is the number of graduates with new or better employment from projects supported by APEC.

Innovative practices, policies and projects will promote industry and academic collaboration on curriculum development to ensure that scholarships provide job-relevant training. Projects that leverage information communication technologies to promote digital and distance workforce development will help provide alternative pathways for technical and vocational training. Policies and programs should not focus too much on hyper specific vocational training, rather, on the types of competencies and skillsets that labor markets are likely to need in the future. In this same manner, fostering creativity and critical thinking, developing entrepreneurial skills, and soft skills development will be incorporated into this curriculum.

EDNET suggests that each economy should increase efforts to develop skills of teachers, curriculum and learning materials to uplift learners' competencies. Moreover, APEC economies will engage in joint collaborations to implement dual-qualifications programmes in vocational education. In line with the collaborations, learners are given opportunities to study abroad under the exchange programmes for teachers and students. Upon graduation, they will receive relevant degrees from each economy.

The outcome to the proposed initiatives will enhance technical and soft skills of vocational learners to align competencies to the needs of individuals, societies and industries in APEC. Moreover, the proposed initiatives can help in promoting cross-border vocational education, academic mobility and individual pathways within and cross APEC.

In order to ensure the quality of provision, outcome and impact of graduates, it is suggested that APEC/industry should set its own qualification framework by working on the continuing gains made by APEC or other regional quality framework, such as APEC engineer, architect FW, the IRF Australian APEC Project, etc. By 2020, each economy should establish its own standards and harmonize with the reference of the APEC framework to achieve quality assurance

If each economy has met reference of the APEC quality assurance, it would enable faculty/student for better employment within the economies and cross-border mobility as well as resource integration. Through establishing quality assurance frameworks, each

economy can contribute to promote qualified and certified employees, with knowledge, skills and attitude relevant to industries of 21st century in APEC.

Many studies have presented that internships, dual-training, apprenticeships and career planning are effective proven education and training approaches because they combine both theoretical and practical training for the students as well as give them the proper exposure in the industry or workplace.

The AES suggests that all the APEC economies ensure that all students / trainees participate in internships, dual training and/or receive entrepreneurship career planning before the last semester of their study. This initiative will be pushed in the next 4 years and is aligned with the Bogor Goals. This will be measured by the number of graduates that gained new or better employment after a year of training or study.

In order to smooth the transition from education to work, APEC encourages member economies to increase access to TVET and/or Higher Education by creating awareness on the benefits of TVET which link to employability, remuneration, career and academic advancement. Also, member economies should ensure that funding opportunities are available for deserving students to enroll into TVET programs and/or Higher Education.

V. Monitoring and Reporting Mechanism

Implementing the APEC Education Strategy through the action plan will encourage APEC member economies to work together. As stipulated in the APEC Education Strategy, HRDWG will monitor the progress in achieving the objective of the APEC Education Strategy. It is expected that economies will collect and use data and other evidence to monitor progress of their proposed activities as part of carrying out the action plan. The monitoring information should be reported regularly to the EDNET meeting and followed up for further discussion in the HRDWG. The report is intended to provide information to see the progress made on implementing the APEC Education Strategy and to act on the necessary steps for further implementation. The overall progress on implementing the APEC Education Strategy will be reported to the APEC Education Ministerial Meeting.

附錄 2 PPSTI-EDNET 政策宣言(草案)

PPSTI-EDNET Policy Statement (Draft)

APEC Education and Science, Technology and Innovation Cooperation Framework

We, PPSTI and HRDWG-EDNET, met in Hanoi joint session to continue working to foster inclusive and equitable quality education, promote innovation driven growth, accelerate innovation in science, technology, engineering, and mathematics (STEM) and increase employability throughout the Asia-Pacific region.

In August 2015, APEC high-level representatives and representatives from trade, industries, and academia met in Manila, Philippines, for the APEC High-level Policy Dialogue on Science and Technology in Higher Education with the theme, “Developing 21st Century Innovators for Inclusive, Resilient and Sustained Growth”, to affirm the importance of cross-fora collaboration on Education, Science, Technology, and Innovation and other related areas of collaboration indispensable for inclusive growth of APEC economies. We also propose annual joint meetings between PPSTI and EDNET. In November 2016, APEC Education Ministers met in Lima, Peru and encourage PPSTI and HRDWG to continue working together to further develop human capital in the region, to contribute to the structural reform agenda, and to deepen participation in labor markets. With above mandates, we encourage members to establish and collaborate on the APEC Framework of Education and Science, Technology and Innovation Cooperation, which includes the following joint actions:

Facilitate communication among researchers, experts, practitioners and policy-makers to exchange relevant knowledge and experiences, help identify the most important challenges facing economies and the greatest and the most inclusive education and training needed in the APEC region. As we have already started several initiatives aiming to address barriers that prevent women and girls from advancing in science, technology, engineering, and math (STEM) fields. We will continue to work for the all-around development of women and disadvantaged groups in STEM related initiatives.

Encourage technological and innovative research cooperation among APEC economies on new opportunities for the design and delivery of education and training to overcome barriers to access and mobility, so as to achieve productive employment mobility in the APEC region.

Promote the collaboration between Government, Industry and Academia to utilize their respective areas of focus in support of education research and joint research on the future impact of technological change.

Strengthen the collaboration with private sectors, including SMEs through multiple channels and platforms to participate in the APEC Education and STI cooperation on various levels and in different fields.

Call for effective educational inclusion of women, elderly, youth and rural communities as well as disadvantaged or vulnerable groups such as Indigenous peoples and persons with disabilities.

Strengthen equal access to science, technology, engineering and mathematics (STEM) education and careers for all and address health-related barriers to all population's equal economic participation.

Improve maximizing participation in life-long learning for all that delivers high quality outcomes against the challenges of unemployment coming along with the fast technological updates.

Strive to break down the barriers between formal, informal and non-formal education and training, and placing an emphasis on lifelong entrepreneurship skills learning, including vocational training centers, vocational secondary schools and vocational colleges.

Encourage the usage and sharing of new and innovative educational activities including educational games, computer, electronic equipment, intelligent devices and experiment to make the learning process more effective, as well as the joint research on innovative teaching methods.

Encourage computer, electronic equipment, intelligent devices to conduct innovative researches and practices to cope with disasters and build a more environmental-friendly world.

As stated in the APEC Education Strategy, "Economies will cooperate to raise the quality of teaching and learning, including in key subjects such as STEM." We are committed to taking concrete steps and joint actions to foster educational development in this region, for a sustainable Asia-Pacific partnership.

We hereby endorse this statement.

附錄 3 APEC 在數位時代下人力資源發展架構

APEC Framework on Human Resources Development in the Digital Age

Ha Noi, Viet Nam 15 May 2017

I. Background

The emerging digital age and fourth industrial revolution is having an unprecedented impact on the way people live and work. Recognising that all economies face challenges in meeting human resources demands in this new era, in 2016 APEC committed to strengthening efforts to ensure decent work and work life quality for all, especially socially vulnerable groups, by providing access to quality inclusive education and vocational training; boosting entrepreneurship; improving social protection; and enhancing regional cooperation.

The world of work is going through major structural changes, with technological advancement, increased fragmentation of production, growing demand for new skills and shifting employment relationships. Technology, digitalisation and automation promise to improve productivity, increase economic output and create high-skilled jobs – bringing immense economic and social opportunities in all economies. Adopting digital technologies and automation techniques can not only increase labour productivity but also enable the development of new business models, new markets and job opportunities.

However, at the same time, digital technology may be disruptive with far-reaching effects on productivity, employment and well-being. These changes will likely render some occupations obsolete and expose more workers to vulnerable employment. (e.g. own-account and unpaid family workers, which already account for 50 per cent of jobs in Southeast Asia and the Pacific, and 40 per cent in East Asia). Furthermore, industry sectors, such as manufacturing are at risk. Evidence shows that the risk of automation could deny poorer economies the opportunity for economic development resulting in new

digital divides and greater inequality. This could result in “premature de-industrialization” in many developing economies before reaching the threshold of industrialization achieved by developed economies. (Rodrik, 2015).

Advancement in technology has led to a pressing need for human resources development including research into the implications for the labour market, education, training and reskilling. This coupled with on-going labour market analyses will support targeted investment consistent with economic needs. Evidence-based policy is required to ensure that labour market participants are employable and prepared for the challenges and opportunities in the new digital age.

II. Purpose

The Framework puts forward an appropriate set of policy directions and measures to support economies to prepare labour market participants for the challenges and opportunities in the world of work today and beyond. In view of the challenges and opportunities associated with digitalisation, it is important for APEC to be used as a **regional platform** for policy dialogue and cooperation on Human Resources Development in the Digital Age.

The Framework complements existing initiatives, such as the APEC Education Strategy and contributes to global efforts including the ILO’s “future of work centenary initiative” and the United Nations’ Sustainable Development Goals as well as fostering shared prosperity for our region, particularly Goal 4 to ensure inclusive and equitable quality education for all and promote lifelong learning and Goal 8 to create new dynamism for growth, achieve sustainable, innovative, and inclusive growth, employment and decent work for all.

III. Objectives:

Objectives of the framework are to:

- i. provide high-level strategic direction on strengthening regional cooperation in human resources development in the digital age;
- ii. outline common policy challenges in building human capital in the face of rapid technological change; and
- iii. identify and take action in priority areas of collaboration where APEC can add value.

IV. Priority Areas and Actions

1. Future of work in the digital age and labour market policy implications

(i) Joint and Regional/ APEC research activities to:

- examine the impacts of new technology and digitalisation on the world of work; and to provide APEC member economies a good indication of where, when and how digitalisation and new technology will change production processes. This will include examining the opportunities and challenges from “Industrialisation 4.0”, “Digital trade” and “E-commerce”.
- assess the impact of digitalisation and automation on labour market outcomes, demand and supply, and policy intervention, including structural adjustment policies to increase workforce participation, support the reintegration of displaced workers and sectoral, occupational and geographical mobility;
- examine labour market challenges for vulnerable groups and policy measures that support their adaptability to structural change; and
- identify new growth sectors and business models for job creation and opportunities for labour market policy reforms to encourage workforce participation.

(ii) Regional/ APEC policy discussions to:

- generate policy-relevant discussion among APEC economies in order to identify clear recommendations for public interventions as appropriate;

- identify approaches to government-wide policies that support labour market adaptability, employment, life-long learning and workforce participation; and
- initiate policies to promote innovation and entrepreneurship in the digital age.

(iii) Development of joint programs, projects and initiatives to promote cooperation and exchanges of best practices to:

- explore the role of labour market information system and data, and the role of public and private employment service in addressing the challenges and opportunities caused by globalisation and digitalisation as well as the way these institutions can be improved through Information and Communication Technology;
- examine the impact of structural adjustment on human resources development and to take into consideration the recommendations of the forthcoming APEC Economic Policy Report on Structural Reform and Human Capital Development;
- underscore the impact of the governance of work on APEC economies, considering gaps in decent work and increasingly fragmented production processes, as well as to examine new forms of employment relations and workers' association in the context of polarization and personalization of work;
- assess new forms of work arising from increased digitalisation, including the growth of virtual work and the “gig economy” under which the demand and supply of working activities is matched online or via mobile apps and its implications on the changing nature of employment relationships, social protection and labour mobility; and
- exchange good practices and innovative approaches in improving public employment service which will better respond to the diversified needs of workers in the digital era.

2. Skills education and training

(i) Joint and regional research activities to:

- anticipate and identify the future skills and competencies in the region that will be required to meet the need of emerging technologies and digitalisation across the life-long learning continuum; and
- investigate and share information on the best means and best practice in teaching, learning, and distance-learning of those skills in need in the digital age.

(ii) Regional/ APEC policy discussions to:

- share views on the need for and implications of the adaptation of education and training systems;
- draw from the experiences of APEC member economies on how to improve implementation of TVET systems including quality assurance system that are better aligned to the needs of the labour market toward inclusive society;
- consider models for public private partnerships that will enable relevant institutional and local/central coordination mechanisms and structures to support skills systems to meet labour market needs;
- develop and implement industry-demand-driven 21st century competencies including technical and soft skills; and
- enhance the use of technology in expanding collaboration between government, academia and industry to develop 21st century competencies and entrepreneurship.

(iii) Development of joint programs and projects to promote cooperation and exchanges of best practices related to:

- developing flexible and innovative training programs to fill any gap in the supply of new skills and higher-skills for the digital age, including implementing domestic/local/sectoral qualification frameworks;
- initiating formal skills recognition for some medium-skilled occupations in migrant intensive sectors such as construction and domestic work;
- identifying how innovation and technology can be used to strengthen institutional capacity of Technical and Vocational Education and Training (TVET) system;

- striving to lift the quality of teaching, and participation at all levels in learning STEM disciplines; and
- expanding the use of information and communication technology to improve workforce employability in the digital age, including through lifelong learning.

3. Social protection

(i) Joint and regional research activities to:

- study new social risks (intensification of work, effects on health and safety, blurring of the boundaries between work and private life, or discrimination) in order to inform new social protection policies and programs; and
- Study new forms of social assistance (such as income support/replacement and community programs); and identify how digitisation/new technological change will create circumstances that will require social protection solutions.

(ii) Regional/ APEC policy discussions to:

- consider how participatory social insurance schemes will need to adapt to new forms of employment;
- explore options that support the development of adequate social protection policies in the changing world of work, to ensure that social protection coverage for workers reflects diverse forms of employment; and
- promote access to social protection for women, the elderly, workers in the informal economy and in the sharing economy.

(iii) Development of joint programs and projects to promote cooperation and exchanges of best practices to:

- map out suitable social protection solutions that are adaptable to new forms of work in the digital age; and

- share experience on how social protection systems may need to be changed or adapted to meet new forms of work.

V. Implementing the priority areas of action through platforms for cooperation

The platform for cooperation should be through the existing HRDWG and complement existing Ministerial Statements such as the APEC Education Ministerial Statement adopted in Lima 2016 and HRD Ministerial Statement adopted in Ha Noi 2014. This could include:

- Strengthening cooperation through collaboration, representation and social dialogue.

Taking into account various levels of development amongst APEC economies, the framework will provide a platform to promote best practices, share information and strengthen capacity-building among APEC economies on human resources development in the digital age in cooperation with relevant partners. In particular progress in new technology may have implications for dialogue with social partners.

- Promoting linkages with other APEC initiatives.

Initiatives under this framework can be enriched and built from various initiatives under the APEC Strategy for Strengthening Quality Growth; Renewed APEC Agenda for Structural Reform; APEC Connectivity Blueprint; Framework for Youth Education, Employment and Entrepreneurship; APEC Education Strategy; and other relevant frameworks, to ensure mutual benefits among APEC economies on human resources development in the digital age.

- Promoting linkages with other APEC sub-fora, such as ECSG, GOS, PPSTI, PPWE, and GOFD.

VI. Proposed timeframe for the implementation of the framework

The proposed timeframe for implementation of the Framework is from 2017 to 2025 with progress to be reviewed in 2022 by the Ministers responsible for human

resources development.