

出國報告（出國類別：開會）

# APEC PPSTI 第23次正式會議 出國報告

服務機關：經濟部產業技術司  
姓名職稱：張能凱簡任技正、張君輔技正  
派赴國家/地區：秘魯/利馬  
出國期間：2月27日至3月3日  
報告日期：113年4月

## 摘要

經濟部產業技術司及國家科學及技術委員會代表參加於秘魯利馬舉行的亞太經濟合作會議（Asia Pacific Economic Cooperation, APEC）科技創新政策夥伴工作小組（Policy Partnership on Science, Technology and Innovation, PPSTI）第23次正式會議，旨在推動科技創新及加強區域科技連結性。會議強調以賦能、創新及數位化促進包容、永續和韌性的經濟成長，討論挑戰及探索新興科技在永續韌性復甦解決方案中的角色、導入任務導向創新政策（Mission-Oriented Innovation Policies, MOIP）、促進私部門與新創參與、以及討論開放科學聯盟等。我國積極參與討論，提出鼓勵跨境創投（Venture Capital, VC）以促進科研新創商業化發展等意見，並在 Subgroup C 會議中，由張能凱簡任技正擔任主席，強調以永續為核心強化供應鏈韌性與促進區域經濟發展。此外，此次會議提案單位於會場發表多項創新技術提案，希冀透過持續參與 APEC，促進創新科技政策對話，支持永續經濟成長與共榮目標。

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## 壹、行程總表

	2/26(一)	2/27(二)	2/28(三)	2/29(四)	3/1(五)	3/2(六)
上午	搭乘南美航空(LA2469) 2/26 23:20- 2/27 07:25 ; 紐約-利馬 (國科會、災防)	08:30集合 搭乘長榮航空(BR6) 2/27 11:20- 2/27 07:00 桃園-洛杉磯 搭乘南美航空(LA2479) 2/27 11:20- 22:55 洛杉磯-利馬	09:00-12:30 參與 PPSTI 大會	09:00-12:00 參與 PPSTI 大會：政策對話	09:00-12:00 Field Trip	搭乘南美航空(LA2478) 3/2 01:00- 3/2 06:55 利馬-洛杉磯 (1) 搭乘長榮航空(BR5) 3/2 10:40- 3/3 17:20 洛杉磯-桃園 (2) 搭乘中華航空(CI7) 3/2 22:45- 3/4 05:20 洛杉磯-桃園 (國科會、災防)
下午			14:00-16:45 參與 PPSTI 大會；分組會議	14:00-17:30 參與 PPSTI 大會：政策對話	22:00 前往機場搭機	

## 貳、團員名單

No.	單位	職銜	中文姓名
1.	經濟部產業技術司	簡任技正	張能凱
2.	國科會科教發展及國際合作處	研究員	鄭慧娟
3.	經濟部產業技術司	技正	張君輔
4.	國家災害防救科技中心	主任秘書	李維森
5.	工業技術研究院	資深副總暨協理	蘇孟宗
6.	工業技術研究院產科國際所	副國際長	鄭尊仁
7.	工業技術研究院產科國際所	副組長	楊家淳
8.	工業技術研究院產科國際所	研究員	方宣懿
9.	工業技術研究院產科國際所	研究員	劉惠娟
10.	工業技術研究院智機中心	特聘研究	羅佐良
11.	工業技術研究院資通所	技術副組長	陳宗賢
12.	金屬中心	專案經理	彭耀德
13.	金屬中心	專員	馬禎志
14.	逢甲大學 APEC 先進生物氫能技術研究中心	專案經理	劉承翰

## 參、APEC 會議行程

### 一、會議目的

經濟部產業技術司長期與國家科學及技術委員會（下稱「國科會」）共同參與亞太經濟合作會議（Asia Pacific Economic Cooperation, 下稱 APEC）科技創新政策夥伴（Policy Partnership on Science, Technology and Innovation, 下稱 PPSTI）工作小組。APEC PPSTI 係 2012年由「工業科技工作小組（ISTWG）」轉型而來。此一轉型旨在擴大本論壇之關注面向，從原先僅以工業科技分享交流為主之核心方向，轉為更強調政策工具在推動科技創新中發揮的效益，突顯建構科技政策平台的重要性，並以強化科研能量、提供鼓勵創新科學環境以及強化區域科技連結性為三大主要項目，以促成亞太地區達成創新成長之目標。

APEC PPSTI 的主要運作模式為：各經濟體針對特定科技創新議題進行計畫提案，舉辦研討會議、科技政策工作坊或最佳案例（Best Practice）之經驗分享，並整合各經濟體科研發展經驗歸納出重要政策建議（Policy Recommendation），以協助經濟體政策落實與應用。各經濟體所派出參與 APEC PPSTI 會議的代表除科技部會官員外，尚有主要科研機構的專家學者與研究人員等，因此 PPSTI 會議除了科技政策研擬之討論，亦涵蓋科技政策落實作法，以及更進一步的科技創新能力分享等。

我國參與 PPSTI 會議模式，係由經濟部產業技術司及國科會率法人單位組團，參與每年 2次例行正式會議，並於會議中擔任 Subgroup C 主席，與各經濟體科研政策官員討論 APEC 科技與創新領域合作議題。此外，成功申請 APEC 基金支持提案之法人單位，亦會在 PPSTI 會議中分享我國重點科研技術，並對外展現合作意願，以推廣我國科研能量，並尋求潛在合作對象及實質商機，擴大提案效益。

## 二、會議過程

2024年 APEC 主辦國秘魯於2月28日至3月1日在利馬會議中心辦理 PPSTI 第23次正式會議，主要採實體進行，APEC PPSTI 首席顧問 Nicholas Brooke 採線上方式參加。本次會議出席共有14個經濟體包含澳洲、加拿大、智利、中國、香港、印尼、韓國、馬來西亞、菲律賓、秘魯、俄羅斯、中華台北、泰國、美國等，超過70位參與者於現場出席會議。我國官方代表有經濟部產業技術司張能凱簡任技正及國科會科教發展及國際合作處鄭慧娟研究員，其他代表團成員，包含國家災害防救科技中心、工業技術研究院、金屬工業研究發展中心、逢甲大學等單位赴秘魯參加會議。

本年度 APEC PPSTI 會議主軸為「以賦能、創新及數位化促進包容、永續和韌性的經濟成長（Empowering Innovation and Digitalization for Inclusive, Sustainable, and Resilient Economic Growth）」，並以「探討未開發且具經濟潛力者，參與科學、科技、創新與數位生態系統等相關領域所面臨的挑戰和障礙，以促進有利永續及包容性科技未來發展的環境（Addressing challenges and barriers for those with untapped economic potential to participate in the science, technology, innovation, and digital ecosystems, as appropriate, to advance enabling environments for a sustainable and inclusive technological future）」以及「探索新興科技及科研角色以支持永續韌性及復甦解決方案（Exploring emerging technologies and more broadly STI for the role that they play in supporting sustainable resilience and recovery solutions）」兩項目作為年度優先重點領域。

2月28至29日會議由美國國務院副助理國務卿 Rahima Kandahari 擔任主席、韓國科技政策研究院多邊合作計畫處處長 Hwanil Park 博士及秘魯科技創新委員會 Benjamín Marticorena 主席擔任副主席，另由 APEC PPSTI 首席顧問 Nicholas Brooke 先生、APEC 秘書處 PPSTI Program Director Ren Hao（中國）先生以及上開經濟體代表出席本次會議。PPSTI 分組會議：「Subgroup A：科研能力建構（Building Science Capacity）」、「Subgroup B：促進創新環境（Promoting Enabling Environment for Innovation）」、「Subgroup C：區域科技連結（Enhancing Regional Science and Technology Connectivity）」於2月28日下午召開，分組 C 會議由經濟部產業技術司張能凱簡任技正代表我國主持會議。2月29日為政策對話，主要針對「於 PPSTI 現行架構下導入任務導向創新政策」及一年期示範計畫執行方式進行討論。

3月1日由 APEC PPSTI 主辦 Off-Site Field Trip 至秘魯自然歷史博物館參訪。鑑於主辦國秘魯地處亞馬遜地區，境內蘊含豐富生物多樣性資源，且是為秘魯科研重點領域之一。本次

APEC PPSTI 安排參訪單位為秘魯自然歷史博物館，旨在瞭解秘魯科學及研究機構保護生物多樣性之相關實踐，以及生物多樣性在科學研究上的價值，包含應用於疾病防治、糧食安全以及氣候變遷適應等議題。同時也探詢未來區域內各經濟體研究機構共同維護生物多樣性之合作機會。本次秘魯自然歷史博物館館方特別開放植物館、古脊椎動物館、爬蟲館、昆蟲館以及魚類館之非公開館藏提供 APEC PPSTI 代表團參觀。除展示秘魯豐富生物多樣性外，也說明該館之重點研究領域及研究方法，特別是有關生物演化以及環境適應等研究。館方也歡迎 APEC 經濟體引薦有關單位進行科學交流或移地研究。

### 三、重要結論及發言要點

#### (一) 會議重要結論

1. PPSTI 秘書處報告，根據 APEC 計劃管理小組（Project Management Unit, PMU）的統計，過去五年中有69%的提案計畫獲得 APEC 基金補助通過。2023年，PPSTI 獲 APEC 基金補助之提案計畫數量在所有工作小組中列為第一（16案），其次是能源工作小組（EWG）15案及貿易暨投資委員會（CTI）11案。自2022年9月至2023年8月間結案計畫，永續成長（43%）、包容成長（26%）、數位經濟（16%）為各計畫呼應之三大優先領域。
2. 美國主席、韓國副主席以及首席顧問皆認為雖然 PPSTI 數量多，但提案主題過於分散，未能聚焦於特定議題並對外展現出 PPSTI 之重大貢獻，因此亟需導入任務導向創新政策（Mission-oriented Innovation Policy, 下稱 MOIP）並界定重大主題（Grand Challenge），以確立 PPSTI 後續發展方向。
3. 針對「政策對話：任務導向創新政策」議程，各經濟體於會議中分成6小組，針對 PPSTI 未來應關注之重點議題（Grand Challenge）、組織架構以及私部門合作等議題進行意見交流，我國表達之立場如下：
  - i. 重點議題：供應鏈韌性、智慧醫療、智慧農業、數位永續、青年及婦女投入新創。
  - ii. 組織架構：應在不改變既有分組架構的前提下，導入任務導向創新政策。
  - iii. 私部門合作：鼓勵跨境創投；鼓勵青年及婦女投入新創；尋求私部門參與之誘因。





另外，在此會議環節已獲初步共識在 PPSTI 現行架構下啟動一年期（2024-2025）示範計畫，預計在今年八月 SOM3會議針對示範計畫細節做進一步討論。

4. APEC 青年科學家獎（ASPIRE）因贊助商 Elsevier and Wiley 結束計畫項目，將停辦一年，歡迎各方踴躍推薦新贊助者。今年美國與秘魯將共同籌辦一場 ASPIRE 論壇，邀請 ASPIRE 歷屆獲獎人員參與。
5. 針對「開放科學聯盟」議程，馬來西亞預計今年召開「APEC 開放科學聯盟概念研究與基準分析系列工作坊」，包含六月辦理線上專家工作坊、八月配合 PPSTI 24會議辦理實體研討會，以瞭解區域內各經濟體在開放科學議題上之相關實踐及缺口，歡迎各經濟體踴躍參與。

## （二）我方發言要點

1. 針對「私部門和新創在 PPSTI 中的參與」議程，我國經濟部產業技術司張能凱簡任技正進行報告，表達我國鼓勵 APEC 各經濟體可積極推動跨境創投，以促進科研新創的商業化發展，並專注於關鍵技術如綠色能源、智慧製造和生物醫藥等投資。期待藉此促進 APEC 區域更具包容性及有活力的創新環境。此部分亦列入本次 PPSTI 23 正式會議紀錄（PPSTI 23 Summary of Key Decisions）中。
2. 經濟部產業技術司張能凱簡任技正擔任 Subgroup C 會議主席，主持 Subgroup C 會議，並於 PPSTI 大會中報告，呼籲各經濟體提案單位應持續以永續為核心強化供應鏈韌性以促進區域經濟發展，以及持續鼓勵新創及婦女尋求創新及數位化以促進包容性成長。
3. 經濟部產業技術司針對本次會議製作 Subgroup C 成果影片，並在 PPSTI 23 正式會議中搭配經濟部產業技術司張簡任技正 Subgroup C 成果報告過程中播放，為整場會議中的亮點，令人有耳目一新之感，也讓各經濟體瞭解我國對於國際事務之積極參與及投入。

## 四、後續辦理事項

- （一）有關「於 PPSTI 現行架構下導入 MOIP」一事，各經濟體已初步取得共識將在 PPSTI 現行架構下啟動一年期示範計畫，預計在今年 SOM3針對示範計畫細節做進



一步討論。此案預計將對 PPSTI 發展目標及組織架構帶來改變，我方將持續積極參與相關討論，以維持我國於 PPSTI 的參與度與能見度。

- (二) 有關「開放科學聯盟」議程，本案獲得多個經濟體強力支持，並可能作為未來 PPSTI 重點任務之一。我方將持續積極參與相關工作坊及討論，以確保我國充分獲取此聯盟發展資訊及進度，並後續評估是否或如何參與。

## 五、結論與建議

- (一) 針對「於 PPSTI 現行架構下導入 MOIP」一案，預計將對 PPSTI 運作模式帶來重大改變，將持續追蹤相關討論進度及參與相關會議，以維持我國於 PPSTI 的參與度與能見度。
- (二) 今年經濟部產業技術司向 PPSTI 提案，包含工研院資通所「以5G 智慧製造強化供應鏈韌性」、工研院服科中心「以虛實互動整合解決方案帶動觀光旅遊經濟轉型」、精機中心「以高效、節能之機器人堆棧技術，提升 APEC 偏鄉區域生產效能」以及紡織所「以智慧科技提升紡織業生產效率，促進 APEC 區域的紡織業發展」共四案。目前尚在 APEC PPSTI 組內審查中，若順利通過則明年將個別執行及舉辦四案 APEC 國際研討會，除了向 APEC 經濟體分享我方科專成果外，亦可瞭解最新國際市場及技術發展趨勢，以促成我方創新技術國際擴散並加速區域數位升級。
- (三) 這次會議我國代表團除了擔任 PPSTI 分組 C 主席並主持會議之外，我國設立的「APEC 先進生質氫能研究中心」及「APEC 颱風與社會研究中心」亦於會中進行分組報告。另外獲 APEC 提案通過之工研院智機中心「利用雲端製造服務建構供應鏈串接能力」計畫、金屬中心「資通訊技術促進智慧醫院發展」計畫以及工研院資通所「以智慧科技建構 APEC 區域的精準漁業典範案例」計畫於會場向國際表達合作意願，期能藉此尋求潛在合作對象及實質商機，擴大提案效益。透過持續參與 APEC，有助於在國際間促進創新科技政策對話，建立科技創新環境，支持永續經濟成長與共榮之目標。

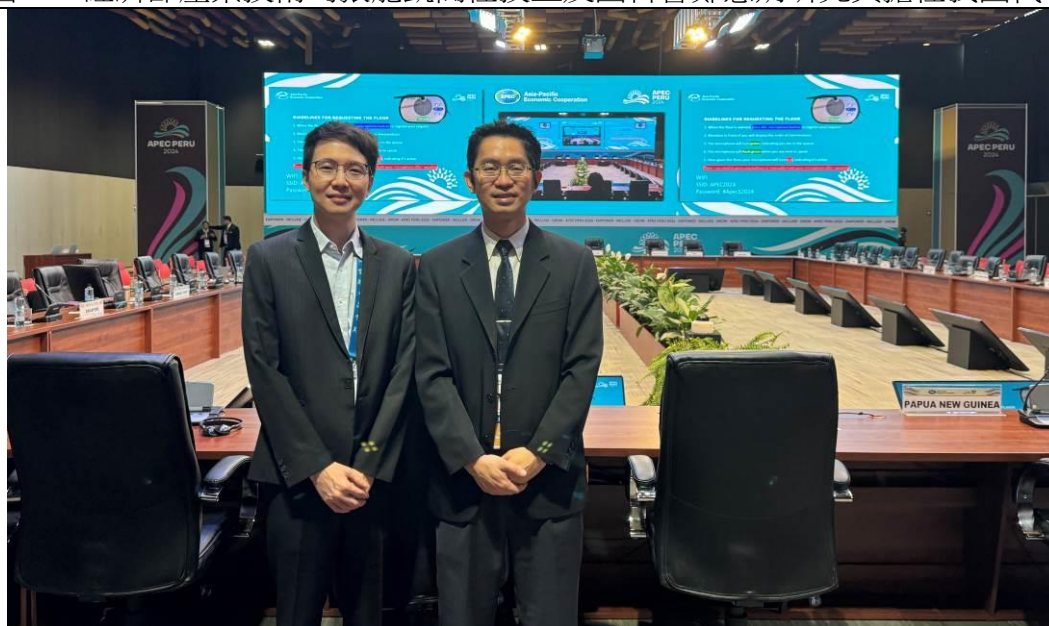
## 六、活動照片

### ● 2月28日(三)參加 APEC PPSTI 23 正式會議第一天

日期	2023年2月28日	時間	9:00-12:15
國家	秘魯	地點	利馬會議中心
單位/部門	APEC PPSTI	紀錄	工研院
出席者	張能凱簡任技正、張君輔技正、鄭慧娟研究員、蘇孟宗協理等14人		



圖一：經濟部產業技術司張能凱簡任技正及國科會鄭慧娟研究員擔任我國代表



圖二：經濟部產業技術司張能凱簡任技正、張君輔技正於 PPSTI 會場合照留念



日期	2023年2月28日	時間	9:00-12:15
國家	秘魯	地點	利馬會議中心
單位/部門	APEC PPSTI	紀錄	工研院
出席者	張能凱簡任技正、張君輔技正、鄭慧娟研究員、蘇孟宗協理等14人		



圖三：針對「私部門和新創在 PPSTI 中的參與」議程，我國經濟部產業技術司張能凱簡任技正進行報告並鼓勵各國推動跨境創投。



圖四：我國代表團全體合照



圖五：PPSTI 各經濟體代表全體合照



● 2月28日(三)參加 APEC PPSTI 23 分組會議

日期	2023年2月28日	時間	14:00-15:30
國家	秘魯	地點	利馬會議中心
單位/部門	APEC PPSTI	紀錄	工研院
出席者	張能凱簡任技正、張君輔技正、鄭慧娟研究員、蘇孟宗協理等14人		



圖六：國科會鄭慧娟研究員及逢甲大學劉承翰專案經理代表我國參與 Subgroup A 分組會議



圖七：工研院智機中心羅佐良特聘顧問代表我國參與 Subgroup B 分組會議



圖八：經濟部產業技術司張能凱簡任技正及工研院蘇孟宗協理代表我國主持 Subgroup C 會議

● 2月28日(三)參加 APEC PPSTI 23 正式會議第一天

日期	2023年2月28日	時間	16:00-17:00
國家	秘魯	地點	利馬會議中心
單位/部門	APEC PPSTI	紀錄	工研院
出席者	張能凱簡任技正、張君輔技正、鄭慧娟研究員、蘇孟宗協理等14人		



圖九：於正式會議中播放 Subgroup C 成果影片



圖十：經濟部產業技術司張能凱簡任技正於 PPSTI 大會中報告 Subgroup C 結論



● 2月29日(四)參加 APEC PPSTI 23 正式會議第二天

日期	2023年2月29日	時間	9:00-17:30
國家	秘魯	地點	利馬會議中心
單位/部門	APEC PPSTI	紀錄	工研院
出席者	張能凱簡任技正、張君輔技正、鄭慧娟研究員、蘇孟宗協理等14人		



圖 十一 :我國代表團積極參與分組討論

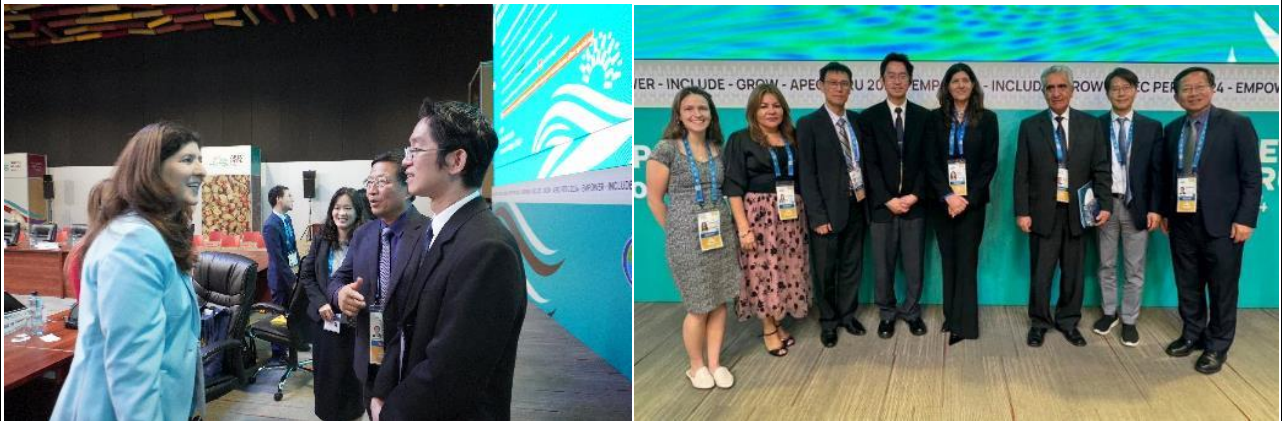


圖 十二 :經濟部產業技術司張能凱簡任技正與美國主席 Rahima Kandahari 交流互動

圖 十三 :我國代表團與 PPSTI Governing Board (美國、韓國、秘魯) 合影



● 3月1日(五)參加 PPSTI Off-Site Field Trip-秘魯自然歷史博物館

日期	2023年3月1日	時間	9:00-12:30
國家	秘魯	地點	秘魯自然歷史博物館
單位/部門	APEC PPSTI	紀錄	工研院
出席者	張君輔技正、鄭慧娟研究員等代表團成員		



圖十四:我國代表團參訪秘魯自然歷史博物館非公開館藏

## 肆、附錄

- 會議議程

V.5, 27 FEB 2024



### 23<sup>rd</sup> APEC Policy Partnership on Science, Technology and Innovation (PPSTI)

#### Meeting

9am - 5pm, 28-29 February 2024

*Lima Convention Center*

Lima, Peru

**PPSTI Theme:** *Empowering Innovation and Digitalization for Inclusive, Sustainable, and Resilient Economic Growth*

**PPSTI priorities:**

- 1) Addressing challenges and barriers for those with untapped economic potential to participate in the science, technology, innovation, and digital ecosystems, as appropriate, to advance enabling environments for a sustainable and inclusive technological future; and
- 2) Exploring emerging technologies and more broadly STI for the role that they play in supporting sustainable resilience and recovery solutions.

Wednesday, 28 February PPSTI Plenary Meeting (Room Naciones 1)	
9:00-9:10	<b>1. Welcoming, Opening Remarks, and Introductions</b>  By PPSTI Chair, Ms. Rahima Kandahari  Vice Chair Dr. Hwanil Park  Host Vice Chair Dr. Benjamin Marticorena  Principal Advisor Mr. Nicholas Brooke
9:10-9:15	<b>2. Adoption of the Agenda</b>
9:15-9:20	<b>3. Business arrangements for PPSTI 23</b>

Page 1 of 7



	By Host Economy
9:20-9:30	<b>4. Update from Host Economy</b> Mariel Barros, SOM PERU Office, to present APEC 2024 priorities
9:30-9:45	<b>5. PPSTI 2024 Work Plan</b> Chair to review the 2024 Work Plan
9:45-10:00	<b>6. 2024 ASPIRE Prize Update</b> <i>United States and Peru to present on plans for ASPIRE 2024</i>
10:00-10:15	<b>7. APEC Projects Update</b> <i>By the APEC Secretariat</i>
10:15 – 10:45	<b>8. Open Science Alliance – Landscape Study and Benchmarking Workshop for APEC Open Science Alliance</b>  <i>By Malaysia</i> <i><u>Verbal interventions welcome</u></i>
10:45-11:15	<b>Break</b>
11:15-11:35	<b>9. Implementation of Putrajaya Vision including through Aotearoa Plan of Action</b>  <i>Member economies to discuss the implementation activities of Putrajaya Vision 2040</i> <i><u>Verbal Interventions welcome</u></i>
	<b>10. New PPSTI Proposals</b>  <i>Economies are invited to share their ideas for concept notes for Project Session 2 and for the future.</i> <i>Please limit your presentation time well within 5 min.</i> 10.1 PRC, Forming Innovation Union: Industry-Academia-Research Collaborations Dialogue 10.2 PRC, Collaborative Development of Digitalization and Greenization to Achieve Carbon Neutrality 10.3 (a) INA, Accelerating Economic Growth through Diversifying Semiconductor Global Supply Chain 10.3 (b) INA, Accelerating Digital Competencies for SMEs and Accelerating Economic Growth through Diversifying Semiconductor Global Supply Chain



	<p>10.4 PE, PPSTI Symposium: Strengthening of capacities to increase the valuation of traditional knowledge with emphasis on Biodiversity in the Ecosystem of Science Technology and Innovation (STI)</p> <p>10.5 PE, Enhancing Technology and Innovation Management Practices in APEC Economies</p> <p>10.6 PE, APEC Symposium on Innovative Policies for Sustainable Growth and the Transition to a Formal and Global Economy through Innovation and Digitalization</p> <p>10.7 PE, Artificial intelligence (AI) for biodiversity monitoring and conservation</p>
12:05 – 12:15	<p><b>11. Private Sector and Start-up Engagement in PPSTI</b></p> <p><i>By Chinese Taipei</i></p>
12:15-14:00	<p><b>Lunch</b></p>
14:00-15:30	<p><b>12. SUB-GROUP MEETINGS</b></p> <p><i>Sub-groups will meet to share updates on endorsed key projects and Centers, discuss ideas for policy recommendations and identify potential topics for future CNs. PPSTI will begin the process of their SCE Fora Assessment, and the outcomes from the sub-group meetings will contribute key information to the Assessment. Sub-group leads are requested to discuss and report on the following:</i></p> <ol style="list-style-type: none"><li><i>1. Strongest points, major impacts and outcomes of the sub-group projects in the past four years.</i></li><li><i>2. Areas where the PPSTI contributions to the sub-group goals could be more efficient and effective.</i></li><li><i>3. Ways in which the sub-group activities and outputs could be made more relevant to policymaking.</i></li><li><i>4. Areas where collaboration (with internal and external partners) and impact of the sub-group work is excelling; and where it could be strengthened.</i></li></ol> <p><i>Three sub-group meetings will be held in parallel.</i></p> <p><i>*The POs responsible for ongoing and recently completed PPSTI projects who wish to report progress/results of their projects in PPSTI Meeting as well as representatives from APEC PPSTI Centers are requested to indicate their interest to make presentations, and to</i></p>



	<p><i>choose one sub-group for each presentation. Each speaker will be given 10 min for presentation and comments. Please note that the presentations should focus on outcomes and recommendations/policy recommendations for relevant follow-through.</i></p>
	<p><b>12.1 Parallel 1:</b> Building Science Capacity (Lead: <u>Malaysia</u>) (Location: Room Naciones 1) Discussion on policy recommendations and potential topics for future CNs 12.1.1 ROK, AMGS report and progress 12.1.2 CT, ACABT annual Report 12.1.3 CT, PPSTI 205 2023A - Green Synergy Solutions to Net-Zero Emissions Based on Bioenergy Technologies for Resilience and Sustainability</p>
	<p><b>12.2 Parallel 2:</b> Promoting Enabling Environment for Innovation (Lead: <u>People's Republic of China</u>) (Location: Room Pachacamac, level 6) Discussion on policy recommendations and potential topics for future CNs  12.2.1 CHL, Concept notes of New Proposals on: Polar Science: institutional and community collaboration towards intersectional change (3') Valorizing sustainable ecosystem services in extreme environments of APEC economies (3') 12.2.2 PRC PPSTI 04 2023A, Women in STEM 12.2.3 PE, PPSTI 202 2023A, Enhancing Technology and Innovation Management Practices in APEC Economies 12.2.4 CT, PPSTI 06 2022A - Capacity Building on Supply Chain Connectivity with Cloud-based Manufacturing Solutions 12.2.5 THA, PPSTI 05 2023S - APEC Science, Technology and Innovation Strategic Foresight 12.2.6 US, 2023 APEC Catalyst Pitch Competition Overview</p>
	<p><b>12.3 Parallel 3:</b> Enhancing Regional Science and Technology Connectivity (Lead: <u>Chinese Taipei</u>) (Location: Room Lima 2, level 1) Discussion on policy recommendations and potential topics for future CNs  12.3.1 PRC, PPSTI 07 2022A, Innovation City 12.3.2 ROK, APEC Climate Symposium 2023 Review and 2024 plan - Enhancing Energy Security in a Changing Climate for a Resilient Future in APEC 12.3.3 CT, PPSTI 07 2023A - Promoting the Developing of Information and Communications Technology-Enabled Smart Hospitals 12.3.4 CT, PPSTI 08 2023A - Building Precision Fishery Model Cases in the APEC Region with Smart Technology 12.3.5 CT, PPSTI 06 2022S - 2022 APEC Research Center for Typhoon and Society (ACTS) Annual Meeting</p>





15:30-16:00	<b>Break</b>
16:00-16:30	<p>13. <b>Report on the Sub-Group Meetings</b> (<i>Location: main meeting room, Room Naciones 1</i>)</p> <p><i>Sub-group Leads to report to PPSTI on the outcome of the sub-group meetings</i></p>
16:30-16:40	On standby in case item 10 runs overtime.
16:30-16:45 (or 16:40-16:55)	14. <b>Day 1 wrap up</b>

<b>Thursday, 29 February PPSTI Plenary Meeting (Room Naciones 1)</b>	
<p>15. <b>Policy dialogue Mission Oriented Innovation Policy</b></p> <p><i>** The Board looks forward to active engagement and robust conversation from all economies as they can attend. They encourage feedback prior to SOM1 to inform the consensus building efforts still underway on this topic. More detailed outline of the morning Policy Dialogue is to come.</i></p>	
9:00 – 10:00	<p><b>PPSTI Pilot Structure</b></p> <p><i>Governing Board Lead</i></p> <p><u><i>Verbal Interventions Welcome</i></u></p>
10:00-10:30	<b>Break</b>
10:30--12:00	<p><b>Grand Challenge Brainstorming – Process &amp; Consensus Building</b></p> <p><i>Governing Board Lead</i></p> <p><u><i>Verbal interventions welcome</i></u></p>
12:00-14:00	<b>Lunch</b>
14:00 – 14:30	<p>16. <b>APEC Young Scientist Exchange Program</b></p> <p><i>by ROK</i></p>
14:30 – 15:00	<p>17. <b>ABAC 2023 Recommendations and 2024 Workplan</b></p> <p><i>Mr. Luciano Paredes, ABAC 2024 Executive Director</i></p>



<b>18. Policy Dialogue</b>	
<b>Innovation Ecosystems for Resiliency Solutions</b>	
Moderator, Host Vice Chair Dr. Benjamin Marticorena	
15:00 – 16:20	<p><i>Panel 1 Speaker: Empowering Participation of STI Stakeholders</i></p> <p>1) Alberto Maurer Fossa Executive Director of the Technological Institute of Production of Peru</p> <p><i>Panel 2 Speakers: Biodiversity</i></p> <p>1) Marleni Ramirez, Ph.D., Biodiversity for Food and Agriculture Lever Alliance of Bioersity International and CIAT Economy Representative-Peru</p> <p>2) Doctor Carlos I. Arbizu Berrocal Professor of Agronomy Engineer Faculty of Engiera and Agrarian Sciences The National University Toribio Rodríguez de Mendoza</p> <p>3) Dr. Ery Odette Fukushima, APRU Delegate</p>
16:20-16:50	<b>Break</b>
16:50-17:25	<p><b>19. Endorsement of the Summary Report of Key Decisions</b></p> <p><i>The Chair seeks PPSTI members' endorsement on a summary report of any key decisions made during this meeting.</i></p>
17:25-17:30	<p><b>20. Closing Remarks</b></p> <p>By the PPSTI Chair</p>
<b>Friday, 01 March</b> <b>PPSTI Field Trip</b>	
09:30-12:00	<p><b>Natural History Museum – Please RSVP Separately</b></p> <p><b>Venue: Convention Center for Transport (Bus transportation provided)</b></p>
	<b>Project workshops, if any (no side event as of now)</b>

- 演講簡報  
2/28 (三) 12:05-12:15 【12. Private Sector and Start-up Engagement in PPSTI】



PPSTI 23

Chinese Taipei

2024/2/28

### Background and Alignments in PPSTI

- Emphasized definition of private sector by UNDP, highlighting importance of **Venture Capital (VC)** in innovation of **STI and R&D**.
  - “Ways to enhance private sector’s participation in PPSTI” workshop in PPSTI 22, in 2023.
- Many proposals in PPSTI to **support startups and talents through incubators**.
  - PPSTI subgroups to set STI commercialization as **agreed priorities and KPI**.
- Enable **young people and women** more to become STI pioneers for **inclusion**.
  - Proposed topics such as social innovation, start-ups, inclusive growth in PPSTI 20, in 2022.



## The Role of VC for Startups in STI and R&D

- VC plays a crucial role in supporting the development of **STI startups**, particularly by promoting the growth of micro and small enterprises with **commercialization potential**.
- **Cross-border VC** can be leveraged to harness **innovation power of startups** to address **grand challenges** in the region facing for fostering sustainable development and technological advancement.



## Strategy to Boost Startups and R&D in Chinese Taipei

- Building a deep-technology Startup Platform to facilitate 44 startup spin-off companies and raise US\$105 million in 3 years.

- Encourage the spin-off of startups



- **SVCP Program**  
(Startup Value Creation Program)
- **STDF Program**  
(Science and Technology Development Fund)

- Create better environment for the spin-off of startups



- "Startups Derived from R&D Results"  
(Special Chapter)

- Support business development of startups



- **TREE Program**  
(Buildup startup ecosystem, which includes startup coaches or mentors, guides startups to survive the valley of death.)

- Provide R&D subsidy for funded startups



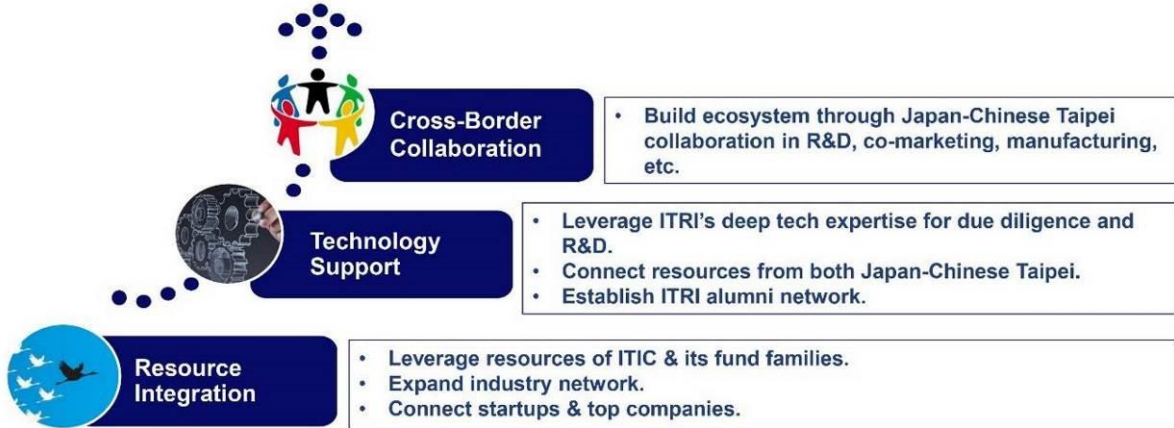
- **A+ STEP Program**  
(A+ Startup Technology Enhancement Program)

Source from the Department of Industrial Technology (DoIT)



## ITRI Building Cross-Border VC to Foster Startups Ecosystem

ITRI full-owned VC fund is ITIC 



Note : Industrial Technology Investment Corporation (ITIC) is a subsidiary of ITRI.

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## ITRI Continuously Invests in Emerging Technology Sectors



INFLECTION

**Big Data & IoT**



**MATERIALS ENGINEERING POSSIBILITIES**

- 3D device architectures
- Compound semi / power electronics
- Advanced packaging
- Advanced deposition, etch, & patterning

**Artificial Intelligence**



- Logic & advanced processors
- New computing architectures
- Advanced packaging

**3D Printing**



- High-fidelity manufacturing technologies
- In-situ metrology
- Design software

**Advanced Displays**



- AR/VR
- High-mobility TFTs
- High-resolution OLED
- Advanced encapsulation

**Energy Storage**



- High energy density batteries

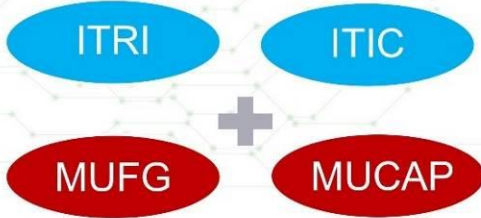
**Personalized Medicine**



- High-speed imaging
- Nano-fabrication / Lab-on-a-chip

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## ITRI and MUFG Established a Cross-Border VC Model



- Established #1 bank in Japan
- Cornerstone in industrial research in Chinese Taipei
- Proven model of cross-border collaboration
- Invested in over 42 companies
- Total investment of over US\$1.3 billion

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## Empowering Startups for Long-Term Investment



**Deep Tech Synergy**

### Global Innovation Leadership

- High-tech linkage between Asia and Silicon Valley
- Help startups access global markets
- Accelerate innovation



### Deep Collaboration

- Drive strong deal flow to ITIC and Applied Ventures
- Transform startups to global players
- Help foreign startups leverage ecosystem

› Through pitch and demo, the winning startups had the opportunity to secure long-term investments ranging from US\$ 0.5 to 5 million fund.

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## Startup Investment Case: Expetech Enhancing Supply Chain Resilience

- Economy : Chinese Taipei
- Project Title: Capacity Building on Supply Chain Connectivity with Cloud-Based Manufacturing Solutions (PPSTI 06 2022A)
- Co-sponsors: Thailand, Malaysia, Indonesia, Korea, and Chile



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## Call for Action



Recommend more **cross-border VC funds** and **startup investment** from APEC economies

### VC Funds



- Encouraging **multiple economies** to collaboratively establish joint VC funds.

### Startup Investment



- Investing technologies: green energy, smart manufacturing industry, and biomedical, etc.
- Encouraging **young people and women-led startups** to become STI pioneers.

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**The End**



- 演講簡報  
2/28 (三) 16:00-16:30  
【14. Report on the Sub-Group Meetings】



Asia-Pacific  
Economic Cooperation

# Subgroup C Status Report:

Name of the presenter

Designation of Presenter

PPSTI 23  
2024/2/28






Advancing Free Trade  
for Asia-Pacific Prosperity

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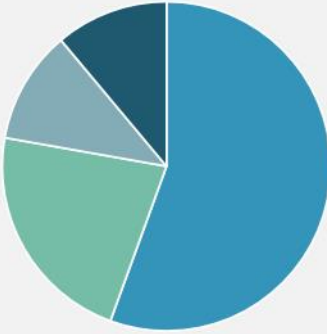
## Subgroup C Project Themes



**5  
Projects**

Digital Sustainability

Ongoing Projects  
**9 Projects**



- Digital Sustainability
- Remote Healthcare
- Energy Resilience
- Smart Manufacturing



**2  
Projects**

Remote Healthcare



**1  
Project**

Energy Resilience



**1  
Project**

Smart Manufacturing

\*Last updated on January 16<sup>th</sup>, 2024 image: Freepik.com Copyright © 2023 APEC Secretariat 1

## 2024 Ongoing Projects of Subgroup C

Field		Project	Economy	Co-sponsors
Smart Manufacturing	2022	Accelerating Industry 4.0 Technology Adoption in Manufacturing Sectors through STI Partnerships among Smart Manufacturing Research and Innovation Centers	Thailand	CHL; PRC; INA; JPN; ROK; MAS; PHL; RUS; SGP; CT
	2023	Promoting the Development of Information and Communications Technology Enabled Smart Hospitals	Chinese Taipei	ROK; MAS; PE; PHL; THA
Remote Healthcare	2022	Driving the Digital Transformation and Capacity Building of Remote Healthcare Systems: Best Practices within the APEC Region	Chinese Taipei	CHL; INA; ROK; MAS; PHL; THA
	2022	APEC Research Center for Typhoon and Society (ACTS) Annual Meeting	Chinese Taipei	ROK; THA
	2022	Capacity Building for a Sustainable and Resilient Agri-Food Industry with Innovative Agro-Industrial Cross-Domain Technology	Chinese Taipei	INA; MAS; PHL; THA
	2022	Achieving Sustainability and Resilience in Water Management of APEC Developing Economies using Open Environmental Data	Thailand	AUS; CDA; PRC; JPN; ROK; RUS; CT; US
	2023	Building Precision Fishery Model Cases in the APEC Region with Smart Technology	Chinese Taipei	MAS; PE; PHL; THA
Digital Sustainability	2023	Collaborative development of knowledge discovery approaches for spatio-temporal prediction of dry spell to predict water deficit risk	Chile	AUS; PRC; INA; JPN; MEX; PNG; PE; RUS; CT; THA; US
	2023	Improving Air Quality Monitoring Solution for Environmental Governance on Cities and Industries	Chinese Taipei	CHL; ROK; MAS; PE; PHL; THA
	2022	Improving BCG Economy by High-Safety and Long-Life Battery Material Technology	Chinese Taipei	INA; MAS; PHL; THA
Energy Resilience	2022	Improving BCG Economy by High-Safety and Long-Life Battery Material Technology	Chinese Taipei	INA; MAS; PHL; THA

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## Technologies and Measures Adoption for Projects

Field	Smart Manufacturing	Remote Healthcare	Digital Sustainability	Energy Resilience
Technologies	<ul style="list-style-type: none"> <li>Industry 4.0 technology</li> <li>Automation technology</li> </ul>	<ul style="list-style-type: none"> <li>Digital dentistry</li> <li>AI diagnosis system</li> </ul>	<ul style="list-style-type: none"> <li>Biochar technology</li> <li>Drone</li> <li>IoT solution</li> <li>Visualization tools</li> </ul>	<ul style="list-style-type: none"> <li>Battery material technology</li> <li>AI for climate prediction</li> </ul>
Measures	<ul style="list-style-type: none"> <li>Public-private-partnership (PPP)</li> <li>Capacity building program</li> </ul>	<ul style="list-style-type: none"> <li>Technology verification program</li> <li>Medical data platform</li> <li>Training course</li> </ul>	<ul style="list-style-type: none"> <li>Cross-field integration</li> <li>Open environmental data</li> <li>Evidence-based policy making</li> </ul>	<ul style="list-style-type: none"> <li>Future energy system strategy</li> <li>Decision-making for emergency preparedness</li> </ul>

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## 2024 Expected Outcomes

**17+**  
Economies

**10+**  
Technologies  
& Activities

**400+**  
Participants  
**150+**  
Women

image: Freepik.com

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## Way Forward



**Advocate Sustainability for  
Fostering Resilient Supply Chain  
and Prosperous Development**



**Encourage Startups and Women  
to Pursue Innovation and  
Digitization for Inclusive Growth**

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## Discussion

1. Strongest points, major impacts and outcomes of the sub-group projects in the past four years.
  - Subgroup C: Enhancing Regional Science and Technology Connectivity
  - Overall major impact: Empowering innovation and digitalization for inclusive, sustainable, and resilient economic growth

Field	Project #	Engaging Institutions	Major Impacts
Smart Manufacturing	CT(2); PRC(1); THA(1)	29	<ul style="list-style-type: none"> <li>• Enhance supply chain resilience</li> <li>• Encourage digital transformation to enhance productivity ...</li> </ul>
Remote Healthcare	CT(3)	45	<ul style="list-style-type: none"> <li>• Ensure inclusive healthcare</li> <li>• Narrow healthcare disparity between urban and rural areas ...</li> </ul>
Digital Sustainability	CHL(3); CT(3); ROK(3); THA(1)	130	<ul style="list-style-type: none"> <li>• Promote circular economy</li> <li>• Improve emergency preparedness ...</li> </ul>
Energy Resilience	CT(1)	18	<ul style="list-style-type: none"> <li>• Harness green and sustainable technologies for a sustainable future ...</li> </ul>
<b>Total</b>	<b>18</b>	<b>222</b>	

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## Discussion

2. Areas where the PPSTI contributions to the sub-group goals could be more efficient and effective.
  - **Foster technology commercialization**
  - **More private sector participation (VC, corporate ...)**
3. Ways in which the sub-group activities and outputs could be made more relevant to policymaking.
  - **Post-project tracking**
  - **More sharing of policy successes and failures**
4. Areas where collaboration (with internal and external partners) and impact of the sub-group work is excelling; and where it could be strengthened.
  - **Excelling: S&T knowledge sharing**
  - **Could be strengthened: more technology collaboration**

**• APEC 人脈鏈結**

經濟體	單位	姓名	職稱
加拿大	Innovation, Science and Economic Development Canada	Kate Raspopow	Manager
中國	中華人民共和國科學技術部 中國科學技術交流中心	郭棟	多邊處六級職員
中國	中國科學技術交流中心	賁濤	多邊處副研究員
香港	APEC PPSTI 首席顧問	Nicholas Brooke	Principal Advisor
香港	香港特別行政區政府 創新科技署	徐廣輝	經理
韓國	Division of Global Innovation Strategy Research, STEPI	Hwanil Park	Ph.D./ Chief Director
韓國	External Affairs Department Operations Division, APEC Climate Center	Suhee Han	
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