出國報告（出國類別：國際會議）

參加APEC 2025 第一次資深官員會議化學對話會議
(APEC 2025 SOM1 CD)

服務機關：環境部化學物質管理署

姓名職稱：連珖彣高級環境技術師、陳文怡助理環境技術師

派赴國家：韓國慶州

出國期間：民國114年2月23日至3月1日

報告日期：民國 114 年 3 月 14 日

壹、 摘要

亞太經濟合作（Asia-Pacific Economic Cooperation，以下簡稱APEC）成立於1989年，為一區域性經濟合作論壇，目前會員經濟體為21個，旨在提升亞太地區的地區性互助合作發展，加速區域整合，提供更為多元安全創新且穩定發展的經濟成長環境。

我國於1991年以中華台北（Chinese Taipei）的名義，與中國及香港同時加入APEC，是我國參加國際經濟合作重要的管道與平臺；設置於貿易暨投資委員會（Committee on Trade and Investment，CTI）下的化學對話（Chemical Dialogue，簡稱CD），起源於2000年汶萊的部長級年會，與會成員對於設立由產官界代表組成的化學對話表示歡迎後，應運而生。

環境部化學物質管理署（自2023年8月22日起，行政院環境保護署毒物及化學物質局改制為化學署，本文以下皆以化學署稱之），自2020年起出席化學對話，迄今已參與11屆（第24屆至第34屆）化學對話會議。

2025年亞太經濟合作會議（Asia-Pacific Economic Cooperation，以下簡稱APEC）主辦國為韓國，其中，第一次資深官員會議（The First Senior Officials' Meeting，以下簡稱SOM 1）於慶州舉行，本團此次於SOM 1會議期間，出席與化學署業務相關聯的會議，分別如下：

- 2月24日：關務程序次級委員會工作坊(Sub-Committee on Customs Procedures)的「微中小企業之環保關稅」(Workshop on Green Customs for MSMEs)。
- 2月25日：化學對話（Chemical Dialogue）「進口通關時有效管理商業機密之能力建構」工作坊(Capacity Building on Effective Management of Confidential Business Information (CBI) During Inwards Customs Clearance)、化學對話產業預備會議（Chemical Dialogue Industry Pre-Meeting, IPM）。
- 2月26日：化學對話全體會議（Chemical Dialogue Plenary Meeting）。

- 2月27、28日：「數位經濟指導小組會議」(Digital Economy Steering Group Plenary, DESG)。

透過出席上述會議，掌握全球化學品管理最新趨勢、蒐集先進國家對於化學的法規調和機制，並經由國際場域，對外提供與分享我國化學品制度發展演進歷程及未來化學物質管理規劃；此外，經由多方交流，加強與各經濟體及 APEC 工作小組合作，提升國際能見度。

貳、 目次

參、　目的

環境部化學物質管理署自2020年起參與化學對話，累積已參與11屆（第24屆至第34屆）的化學對話會議，逐步熟悉APEC次級論壇運作。

惟化學署業務除與APEC化學對話有所連結以外，亦與緊急應變、相關國際標準息息相關，因此，此次會議除出席固定與會的學對話產業預備會議（Chemical Dialogue Industry Pre-Meeting，簡稱IPM）、化學對話全體會議（Chemical Dialogue Plenary Meeting），以及此次由新加坡因應提案舉辦的化學對話工作坊：「進口通關時有效管理商業機密之能力建構」工作坊(Capacity Building on Effective Management of Confidential Business Information (CBI) During Inwards Customs Clearance)外，亦出席關務程序次級委員會工作坊(Sub-Committee on Customs Procedures)「微中小企業之環保關稅」(Workshop on Green Customs for MSMEs)與「數位經濟指導小組會議」(Digital Economy Steering Group Plenary, DESG)，經由不同面向的次級論壇，掌握國際間化學物質管理相關議題，以及來自其他APEC次級論壇中，與化學署有所關聯的議題。

另一方面，因應化學署於 2024 年提出 APEC 自籌提案，此次於會議期間，報告 2024 年之執行成果，以及預告今 (2025) 年提案。

肆、 過程

本次出國時間共七日，行程如下：

表 1　行程規劃

日期	天數	地點	行程
114/2/23	第 1 天	臺北→韓國釜山→韓國慶州	啟程
114/2/24	第 2 天	韓國慶州	參加關務程序次級委員會「微中小企業之環保關稅」工作坊
114/2/25	第 3 天	韓國慶州	1. 參加化學對話「進口通關時有效管理商業機密之能力建構」工作坊 2. 參加「化學對話業界預備會議」
114/2/26	第 4 天	韓國慶州	參加「化學對話會議」
114/2/27	第 5 天	韓國慶州	參加「數位經濟指導小組會議」
114/2/28	第 6 天	韓國慶州	參加「數位經濟指導小組會議」
113/3/1	第 7 天	韓國慶州→韓國釜山→臺北	返程

（一） 關務程序次級委員會「微中小企業之環保關稅」工作坊

1. 時間：2025 年 2 月 24 日
2. 背景：
   (1) 此為韓國提案。
   (2) 自西元 2000 年以來，國際社會認識到氣候變化的嚴重性，並持續努力推動環保和去碳化經濟。近期，各經濟體和經濟實體紛紛建立新的環保政策和國際標準，特別是歐盟積極實施了碳邊境調整機制（CBAM）和企業可持續性盡職調查指令（CSDDD）。遵守這些新

政策已成為亞太地區貿易和經濟活動中的關鍵考量，因此 APEC 經濟體需積極應對。

3. 說明：此專案旨在協助亞太經濟合作組織地區的微型、小型和中型企業（MSMEs）出口商遵守與貿易相關的環境法規（如 CBAM 等），並廣泛支持 MSMEs 在其貿易活動和供應鏈運營中實現淨零排放和循環性，促進 APEC 地區的可持續經濟增長。

（二） 化學對話「進口通關時有效管理商業機密之能力建構」工作坊

1. 時間：2025 年 2 月 25 日
2. 背景：化學對話入境清關過程，有效管理機密商業資訊（CBI）之能力建構工作坊
   (1) 此為新加坡提案；主要是 APEC 經濟體的海關，要求進口貨物，於清關過程中，揭露 100%成分的情形，日益頻繁，這帶來嚴峻的挑戰。這些請求通常針對機密商業資訊（CBI），且缺乏正式監理架構，導致其性質和範圍存在很大差異。
   (2) 工作坊目的是透過與海關當局和產業代表透過面對面交流，支持海關的能力建構，建立 CBI 相關知識的能力，進而減緩 APEC 經濟體間潛在的非關稅貿易障礙、加速貿易自由化便利化，並加強區域互聯互通等議題。
3. 形式：上午以聆聽來自美國、印尼、澳洲等經濟體的作法；下午分組就化學物質安全資料表（SDS）進行評估。
4. 心得：此工作坊與我國財政部關務署業務息息相關，惟同時間關務程序次級小組委員會（SCCP）本身亦有會議，無法前來分享我國現狀，較為可惜。

（三） 化學對話業界預備會議

1. 時間：2025 年 2 月 25 日
2. 出席狀況：澳洲、智利、印尼、韓國、馬來西亞、墨西哥、菲律賓、俄羅斯、新加坡、我國、泰國、美國、越南等 13 個經濟體。
3. 討論：CD 存續議題
   (1) 背景：美國政府代表於去（2024）年 2 月的第 32 屆以及 8 月的第 33 屆化學對話中，發言建議化學對話職權範圍（Terms of Reference，簡稱 ToR）於今（2025）年底到期後落日，不再持續。
   (2) 在以產業代表為主的產業預備會議，產業主席請各經濟體就 ToR 的修改，提供建議，以擴大各經濟體於 CD 的出席；惟發言經濟體，主要在釐清相關流程，以下為發言重點：
      A. 釐清美國政府代表的立場。
      B. 釐清相關時程，以及 CTI 會議時程為今年 3 月上旬。
      C. 整體而言，包括：澳洲、智利、墨西哥、俄羅斯、新加坡、我國，以及美國的產業代表，皆支持化學對話存續，不應落日。

（四） 化學對話全體會議

1. 時間：2025 年 2 月 26 日
2. 出席狀況：
   (1) 實體會議；澳洲、智利、日本、韓國、馬來西亞、墨西哥、巴布亞紐幾內亞、祕魯、菲律賓、俄羅斯、新加坡、泰國、美國、越南，以及我國，計 15 個經濟體出席，達到法定出席門檻（14 個經濟體=21 個經濟體*2/3）。
   (2) 觀察：巴布亞紐幾內亞罕見出席 CD；另外，明（2026）年的主辦國中國，此次仍未出席 CD 全體會議。
3. 化學署發言：
   (1) 法規更新：

A. 發言：我國環境部化學署助理環境技術師陳文怡說明我國全氟及多氟烷基物質（PFAS）概況，以及我國跨部會的「全氟及多氟烷基物質（PFAS）管理行動計畫」。

B. 回饋：會後美國化學產業協會（American Chemistry Council，ACC）Francisco A. Laguna 及韓國環境部化學局副主任 Park Juhyeon 前來請益，以及索取簡報。

(2) 提案成果及提案預告：

A. 發言：國立高雄科技大學陳政任主任說明去（2024）年執行 APEC 自籌經費提案—「化學緊急應變能力建構培訓計畫」（Capacity Building for Chemical Emergency Preparedness）的執行成果，並預告今年將申請 APEC 補助經費提案。

B. 回饋：CD 政府主席 Kent SHIGETOMI 對此表達肯定；CD 計畫主任（PD）Nguyen Thu Tra 會後亦表達期待。

(3) AI 於石綿管理之應用

A. 發言：我國高級環境技術師連珖彣於進行專題報告，介紹我國首次大規模應用遙測技術，進行石綿屋頂的管理。

B. 回饋：會後新加坡產業代表許李王分享該經濟體在石綿管理的作法，並提供書面資料供我們後續參考，作為後續進一步交流的基礎。

4. 討論：CD 存續探討

(1) 背景：美國政府代表（環保署）多次表態建議，化學對話於今（2025）年底職權範圍到期後，不再繼續；惟其餘經濟體皆支持 CD 是重要平台，有其必要性。

(2) 發言：

A. 化學對話各經濟體代表於 CTI 主席 Christopher TAN 在 CD 說

明「CTI Priorities in 2025」的時段時，紛紛向 CTI 主席表態，希望 CD 存續的概念；包括：智利、印尼、墨西哥、新加坡、美國產業代表、越南，以及我國皆發言。

B. 美國環保署此次無派人出席 CD，委由美國大使館（Embassy of the United States of America）派駐在韓國的 APEC 協調員（APEC Coordinator）Aaron Banks 於會中重申美國政府希望 CD 落日的立場。

(3) 後續：CD 存續於會議無具體結論，預計 3 月上旬的 CTI 會議，會有進一步討論；預期下次化學對話會議、即今年 8 月以前，CD 是否存續，會有所決定。

（五） 數位經濟指導小組全體會議

1. 時間：2025 年 2 月 27、28 日
2. 背景：數位經濟指導小組（Digital Economy Steering Group，DESG）旨在推動 APEC 區域內的數位經濟發展，並協調各經濟體在數位領域的合作。
3. 說明：

(1) 使用新興技術促進貿易：新興數位技術正在改變國際貿易，影響物流、供應鏈管理及整體貿易便利化。APEC 應加速數位轉型，特別關注數位貿易技術的採用及包容性數位貿易實踐。

(2) 負責任與風險可控的人工智慧(AI)：AI 可提升政府服務的效率，但 AI 系統在設計、開發、部署、使用及淘汰時，若未能妥善管理風險，可能影響公眾權益與社會公平。討論如何確保 AI 在公共領域的應用符合責任與可管理風險的原則，並增強政府數位服務的包容性發展。

(3) 數位素養與技能提升：提高數位包容性是 APEC 網際網路與數位

經濟路線圖（AIDER） 的重點之一。包括：加速數位基礎設施建設、建立終身數位學習系統、縮小數位鴻溝、加深國際交流與合作。

伍、 心得與建議

一、 心得

（一） CD 存續議題的討論與挑戰

化學對話（Chemical Dialogue，簡稱 CD）職權範圍（Terms of Reference，簡稱 ToR）將於今（2025）年 12 月 31 日到期，因應 ToR 到期，CD 存續議題，因美國反對存續，而有落日（即收掉之意）的可能性。

此次 CD，在 APEC 具有主導力量的經濟體—美國政府表態，主張應讓 CD 落日；然而，其餘各國政府、產業代表，以及我代表團，皆認為化學對話建構化學相關利害關係人的對話平臺，有其價值及意義，具有存在的必要性，不宜落日。且此次會議共計 15 個經濟體出席，達到法定出席門檻，且巴布亞紐幾內亞罕見出席；另外，明（2026）年的主辦國中國，此次仍未出席 CD 全體會議。

CD 的上層單位貿易暨投資委員會（Committee on Trade and. Investment，簡稱 CTI）於 3 月 6 日召開會議，探討各次級論壇的存續議題。美方指出，CD 除了各經濟體出席和提案不踴躍以外，另一方面，接續 2006 年《國際化學品管理戰略方針》（2006 Strategic Approach to International Chemicals Management，簡稱 SAICM）的《全球化學品框架》（The Global Framework on Chemicals，簡稱 GFC）近期通過，已是重要論壇，大多數 APEC 經濟體及各國政府內部的多個監理機構均積極參與且 GFC 開放利害關係人參與，確保產業界在 CD 發揮的關鍵作用，能夠在該論壇延續。換言之，美方仍堅持 CD 落日。

由於同屬產業對話的汽車對話（Automotive Dialogue，簡稱 AD），亦面臨落日危機，對於 CTI 來說，若毫無產業對話，可能與促進貿易或投資的初衷違背，產業對話存在有其必要性；因此，美國、祕魯及智利建議或可考慮將 AD 及 CD 合併，且產業對話不限汽車及化學產業，日後亦可納入其他產業。

因 APEC 組織強調「共識決」的精神，該次 CTI 因未有結論。

（二） 韓國會議安排與周邊活動的特色

韓國除了對於會議安排用心，在相關周邊活動也花了心思，例如在會場旁設置相關攤位，推銷其國內特色。這些攤位包含傳統的韓服體驗、韓國時下流行的個人色彩分析，甚至安排工作人員穿著《魷魚遊戲》的服裝，使與會者印象深刻。這些安排不僅增加了與會者的互動，也展現韓國文化特色，為會議帶來更豐富的體驗。這些做法值得參考，未來我國在舉辦相關提案時，可借鏡韓國經驗，考慮如何增加周邊活動的吸引力，以提升整體會議的影響力與參與度。

二、建議

（一） 關注 CD 落日後的轉移與整合可能性

觀察目前的情勢，CD 落日但併入或轉移其他次級論壇、對話或工作小組的可能性較大。至於併入或轉移的次級論壇，APEC 恐怕還需要另行討論。以下羅列業務範圍與 CD 部分探討議題有所連結的其他次級論壇、對話或工作小組：

- 緊急應變工作小組 Emergency Preparedness, EPWG；
- 標準及符合性次級委員會 Sub-Committee on Standards and Conformance, SCSC；
- 海洋與漁業工作小組 Ocean and Fisheries Working Group, OFWG；

- 衛生工作小組 Health Working Group, HWG
- 關務程序次級委員會 Sub-Committee on Customs Procedures, SCCP；
- 中小企業工作小組 Small and Medium Enterprises Working Group, SMEWG。
- 數位經濟指導小組 Digital Economy Steering Group, DESG；

惟其他的次級論壇、對話或工作小組，並非以「化學」為主軸；因此，在參與其他論壇期間，可能會出現並非所有會議議程都與本署相關；建議可增加主導權、大膽嘗試於該論壇開發新議題，創造各經濟體討論的契機。

（二） 彙整新的提案選項

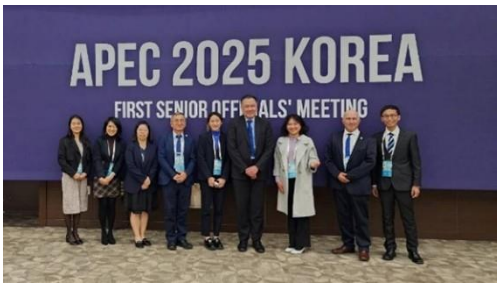
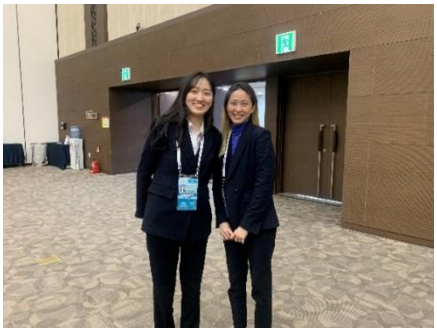
目前化學署執行及規劃的提案以化學應變培訓課程為主，未來可依據現有業務拓展其他主題。建議透過正式會議的專題演講時段，初步了解各經濟體對新議題的興趣，以便調整或確立提案方向。

（三） 推動跨論壇提案

由於 APEC 亦看重跨論壇合作的可能性，因此，可評估與不同論壇合作之可行性，藉此擴大提案的影響力與曝光度，使更多經濟體瞭解並參與。然而，跨論壇提案的推動需較長的前置準備時間，例如：尋求各論壇的支持，因此，建議提前進行規劃、及早準備。

陸、　附錄

一、參與會議實錄

	
我代表團與化學對話政府共同主席 Kent C. SHIGETOMI（右四）合影。	化學署陳文怡助理環境技術師（右）於全體會議進行法規更新報告。
	
化學署連珑彣高級環境技術師（左）於全體會議進行石綿屋頂遙測成果報告。	國立高雄科技大學陳政任主任說明 APEC 提案執行成果
	
化學署陳文怡助理環境技術師（右）與韓國環境部化學局副主任 Park Juhyeon（左）合照。	我代表團與新加坡化學產業協會 Cissie Yeung（右二）合照

資料來源：APEC 2025 KOREA（www.flickr.com/photos/apec2025/albums）、本代表團攝影

Agenda

Capacity Building on Effective Management of Confidential Business Information (CBI) During Inwards Customs Clearance

Date: Tuesday, February 25, 2025

Location: Gyeongju Hwabaek International Convention Center (HICO)

Room: 300B

SESSION	DESCRIPTION
08:30 – 09:00	**Registration and Arrival**
09:00 – 09:10	**Welcome and Opening Remarks** **Speakers:** • **Mr. Kent Shigetomi**, Government Co-Chair, Chemical Dialogue [confirmed] • **Mr. Heon Park,** Chair, Sub-Committee on Customs [confirmed]
Session 1 09:10 – 09:25	**Business Perspective: Why are CBI and trade secrets important?** This session will explore the role of CBI in the chemical industry and how it supports innovation and research to enhance chemical products and downstream uses for industrial and commercial needs, the development of sustainable products, and the advancement of a

	circular economy, while protecting human health and the environment. The results of that research (both what works and what doesn't work) are an important component of CBI. The session will also look at the effects of misappropriated CBI / trade secrets including the economic impacts, the negative impacts on innovation, as well as the concept of "competitive intelligence." **Facilitator**: **Cherie Weible**, Senior Director, Strategy and Global Affairs, American Chemistry Council [confirmed] **Speaker**: **Lisa Schroeter**, Dow Chemicals [pre-recorded video – 10 min]
Session 2 09:25 – 09:45	**Definition of CBI and Trade Secrets** This session will explore how different organizations and APEC economies define CBI and trade secrets across different regions and organizations, including those from OECD, TRIPS, and the EU. Additionally, it will incorporate perspectives from APEC member economies. The discussion aims to highlight the differences in these definitions and how they impact the management of CBI within the industry. **Speaker: Mr. Francisco A. Laguna**, Director, Global Affairs, American Chemistry Council [confirmed]
Session 3 09:45 – 10:25	**Submission of CBI to Government Authorities: What + When + How** This session will outline specific circumstances under which the chemical industry must submit CBI to government authorities. Key situations include the process of establishing national inventories, registering new chemical substances not on the current inventory, during risk assessments, and customs clearance (TBC). The session will also touch on the general requirements for CBI submission upon request by the authorities.

	This session will detail the type of CBI authorities require for regulatory purposes. For chemical substances, information may include the CAS number and IUPAC name, while for mixtures, it could involve the chemical composition and active ingredient details. General requirements may extend to quantities exported and intended uses. The session will also discuss examples of overreach in CBI requests, such as demands for purchase and sales data, production capacity, and impurity information. **Facilitator**: **Ms. Cissie Yeung**, Singapore Chemical Industry Council (SCIC) [confirmed] **Speakers**: • **Australia:** Mr. Nick Zovko, Head of Regulatory Affairs, Chemistry Australia confirmed] • Indonesia: Mrs. Monika Dwi Meilani, Head Section of Anti-Transnational Crimes I, Directorate General of Customs and Excise [confirmed] • **Malaysia:** Ir. Ts. Hazlina Yon, Director, Chemical Management Division Department of Occupational Safety and Health, Ministry of Human Resources [confirmed] • The Philippines: Mr. Roland Omar C. Tamani, Engineer II, Environmental Management Bureau [confirmed]
10:25 – 11:00	**Coffee Break and Family Photo**
Session 3 Continued… 11:00 – 11:20	**Submission of CBI to Government Authorities: What + When + How** This segment will explore mechanisms available for submitting CBI, either directly or indirectly, through local representatives or importers. The session will discuss the differences, associated consequences, and the challenges that importers and foreign manufacturers face in obtaining and submitting CBI, particularly for MSMEs with limited resources.

	Speaker: Francisco A. Laguna, Director, Global Affairs, American Chemistry Council [confirmed]
Session 4 11:20 – 12:00	**Panel Discussion – Challenges Facing Industry and Solutions Offered by Economies** This panel will provide an overview of best practices from different APEC economies on handling CBI and justifying CBI claims. The session will feature insights from a panel of APEC economies. The aim is to showcase effective regional practices and their applicability across borders. **Facilitator**: **Ms. Cissie Yeung**, Singapore Chemical Industry Council (SCIC) [confirmed] **Speakers:** • **Australia:** Mr. Nick Zovko, Head of Regulatory Affairs, Chemistry Australia [confirmed] • Indonesia: Ms. Ika Suryani, Regulatory Affair Coordinator, Responsible Care Indonesia [confirmed] • Korea: TBD • The Philippines: Mr. Roland Omar C. Tamani, Engineer II, Environmental Management Bureau [confirmed] • Viet Nam: Mr. Do Thanh Bai, President, Vietnam Responsible Care Council (VRCC) of Chemical Enterprises [confirmed]
Session 5 12:00 – 12:30	**Discussion on Safety Data Sheets (SDS)** This session will review the requirements for SDS under the Globally Harmonized System (GHS), outlining its purpose and what is typically included versus excluded, such as full chemical composition. The session aims to explain why full disclosure may not be mandated and review best practices in customs compliance verification. **Facilitator**: **Mr. Fabien Henry**, Manager, Regulatory affairs, South-East Asia, Nickel Institute [confirmed]

	Speakers: • **Ms. Maureen Ruskin,** UNGHS [pre-recorded video – 15 min] • **Ms. Cissie Yeung**, Singapore Chemical Industry Council (SCIC) [confirmed]
12:30 – 13:30	**Lunch**
Session 6 13:30 – 14:30	**Roundtable: Customs CBI Disclosure Requirements During Import Clearance Process and Related Best Practices** The panelists on the roundtable will discuss three topics: • Justifications for CBI disclosures during import processes, including compliance with international chemical conventions (Basel, Minamata, Rotterdam, Stockholm), economy-controlled substance legislation, and other import regulations; • Challenges faced by industry related to full chemical composition disclosures, including requirements to publish such disclosures on product SDSs and providing CBI via unofficial channels; and • Effective customs clearance practices focused on ensuring compliance and facilitating smoother processes, such as the benefits and implementation of self-declarations, successful coordination between customs and chemical authorities and harmonized procedures that streamline operations while maintaining regulatory compliance. **Facilitator: Francisco A. Laguna**, Director, Global Affairs, American Chemistry Council [confirmed] **Speakers:** • **Australia:** Mr. Nick Zovko, Head of Regulatory Affairs, Chemistry Australia [confirmed] • Indonesia: Mrs. Monika Dwi Meilani, Head Section of Anti-Transnational Crimes I, Directorate General of Customs and Excise [confirmed]

	• Indonesia: Ms. Ika Suryani, Regulatory Affair Coordinator, Responsible Care Indonesia [confirmed] • The Philippines: Mr. Roland Omar C. Tamani, Engineer II, Environmental Management Bureau [confirmed] • **Viet Nam: TBD** • Viet Nam: Mr. Do Thanh Bai, President, Vietnam Responsible Care Council (VRCC) of Chemical Enterprises [confirmed]
14:30 – 14:45	**Coffee Break**
Session 7 15:15 – 16:00	**Break Out Sessions** **Case Study:** Creation of Product SDS **Facilitators:** • **Mr. Francisco A. Laguna**, Director, Global Affairs, American Chemistry Council [confirmed] • **Ms. Cissie Yeung**, Singapore Chemical Industry Council (SCIC) [confirmed] • **Ms. Cherie Weible**, Senior Director, Strategy and Global Affairs, American Chemistry Council [confirmed] • **Mr. Fabien Henry**, Manager, Regulatory affairs, South-East Asia, Nickel Institute [confirmed]
Session 8 16:00 – 16:15	**Report out from Break Out Sessions**
Session 9 16:15 – 16:30	**Summary and Closing** • **Ms. Cissie Yeung**, Singapore Chemical Industry Council (SCIC) [confirmed] • **Cherie Weible**, Senior Director, Strategy and Global Affairs, American Chemistry Council [confirmed]

三、化學對話全體會議議程

34th Chemical Dialogue ("CD34") AGENDA

"Empower. Include. Grow."

Location: HICO Convention Center
Room: 300B
26 February 2025

***Relevant documents may be found on the APEC Collaboration System (ACS):* here**

26 FEBRUARY 2025	
09:00 – 15:40 KST	**34TH APEC Chemical Dialogue (CD)**
09:00-09:30 **[30 min]**	**1. Welcome and Introductions**
09:00-09:05 [5 min]	**1.1 Introduction from Government Co-Chair** ▪ **Kent Shigetomi**, Chemical Dialogue Government Co-Chair The Government Co-Chair will convene the first meeting of the Chemical Dialogue (CD) for 2025 and provide a brief outline of the objectives and operating procedures for the meeting.
09:05 – 09:10 [5 min]	**1.2 Welcome from Industry Co-Chair** ▪ **Sergio Barrientos**, Chemical Dialogue Industry Co-Chair

	The Industry Co-Chair will welcome delegates and provide a summary of industry-specific developments since CD33.
09:10 – 09:25 [15 min]	**1.3 <u>Delegation Introduction and Adoption of Meeting Agenda</u>** Economies will provide endorsement of the agenda and highlight their meeting priorities. ▪ **Kent Shigetomi,** Chemical Dialogue Government Co-Chair ▪ **Sergio Barrientos,** Chemical Dialogue Industry Co-Chair Each delegation will be asked to indicate: 1. The economy they are representing 2. Whether they are representing government or the private sector 3. Indicate if they would like to propose a change to the agenda or adopt it as is 4. Priorities for the meeting. For example, GHS, regulatory cooperation, sustainability, and marine debris, among others.
09:25 – 09.30 [5 min]	**1.4. <u>Korea Priorities for APEC 2025</u>** • Representative from APEC 2025 Korea Preparation Office <u>Meeting Documents</u> ▪ 2025/SOM1/CD/XX Korea 2025 Priorities A representative from Korea will welcome members of the Chemical Dialogue and share APEC priorities for 2025.
09:30-10:00 **[30 min]**	**2. APEC 2024 Management Update** *(Presenters are encouraged to reserve several minutes for questions following each presentation)*
09:30-09:40 [10 min]	**2.1 <u>APEC Secretariat Update</u>** ▪ **Nguyen Thu Tra**, Program Director, APEC Secretariat

	Meeting Documents ▪ 2025/SOM1/CD/XX APEC Secretariat Update The APEC CD Secretariat will provide updates on the Fora Assessment and Renewal Process.
09.40 – 10.00 [20 min]	**2.2. Project presentation** ▪ Project Management Unit, APEC Secretariat Meeting Documents ▪ 2025/SOM1/CD/XX PMU updates The Project Management Unit will provide brief on project cycle and project management
10:00 – 11:05 **[65 min]**	**3. Regulatory Cooperation and Convergence** *(Presenters are encouraged to reserve several minutes for questions following each presentation)*
10:00 – 10:30 [30 min]	**3.1 Regulatory Updates** **Potentia**l Economy Interventions • Brunei Darussalam • Canada • Chile • People's Republic of China • Indonesia • Japan • Republic of Korea • Malaysia • Mexico • New Zealand • Papua New Guinea • Peru • The Philippines • Russia

	• Singapore • Chinese Taipei • Thailand • The United States • Viet Nam This session will allow for economies to briefly (5 min per economy) introduce any regulatory updates. Economies may notify the APEC Secretariat if they would like to be added to the list of economy updates. **If possible, please table your intervention in advance with the APEC Secretariat.**
10:30-10:40 [10 min]	**3.2 <u>Virtual Working Group on Regulatory Cooperation and Convergence (VWGRCC)</u>** ▪ **Cherie Weible** Representative, VWG on Regulatory Cooperation and Convergence ▪ **Ms. Cissie Yeung**, Representative, ASEAN Regulatory Cooperation Platform (ARCP) ▪ **Mr. Guillermo Miller**, Representative, USMCA Regulatory Cooperation Initiative <u>Meeting Documents</u> ▪ 2025/SOM1/CD/XX VWG on Regulatory Cooperation and Convergence A representative of the VWGRCC will provide an update regarding the implementation of the VWG work plan for 2025, including the implementation of a Confidential Business Information (CBI) workshop, a resilient supply chain workshop, and regional work done in LATAM, ASEAN and North America.
10:40-10:50 [10 min]	**3.3 <u>Workshop Update on Capacity Building on Effective Management of Confidential Business Information During Inwards Customs Clearance</u>** ▪ **Cissie Yeung**, Product Regulatory, Compliance and Advocacy Manager, SEA region, Shell Singapore Pte Ltd

	A representative for the project overseer will provide an update on the implementation of the workshop on 25 February and next steps.
10:50-11:05 [15 min]	**3.4 <u>Capacity Building for Chemical Emergency Preparedness</u>** ▪ **Jenq-Renn Chen,** Director, MOENV Southern Emergency Response Team (SERT), Chinese Taipei <u>Meeting Documents</u> ▪ 2025/SOM1/CD/XX Capacity Building for Chemical Emergency Preparedness Chinese Taipei will provide an update on the achievements of the "Capacity Building for Chemical Emergency Preparedness" program held in 2024, as well as the experiences from the 2024 event and feedback from various economies, and to promote the contents of the training program planned for 2026
11:05-11:15	**Coffee Break**
11:15 – 11:30 [15 min]	**3.5 <u>CTI Priorities in 2025</u>** ▪ **Christopher TAN**, Committee on Trade and Investment (CTI) Chair The CTI Chair will give a presentation on CTI Priorities in 2025
11:30-12:00 **[30 min]**	**4. Globally Harmonized System for the Labelling and Classification of Chemicals (GHS)** *(Presenters are encouraged to reserve several minutes for questions following each presentation)*
11:30-11:45 [15 min]	**4.1 <u>Status of the G.R.E.A.T. Project</u>** ▪ **Ellen Lin,** Chinese Taipei

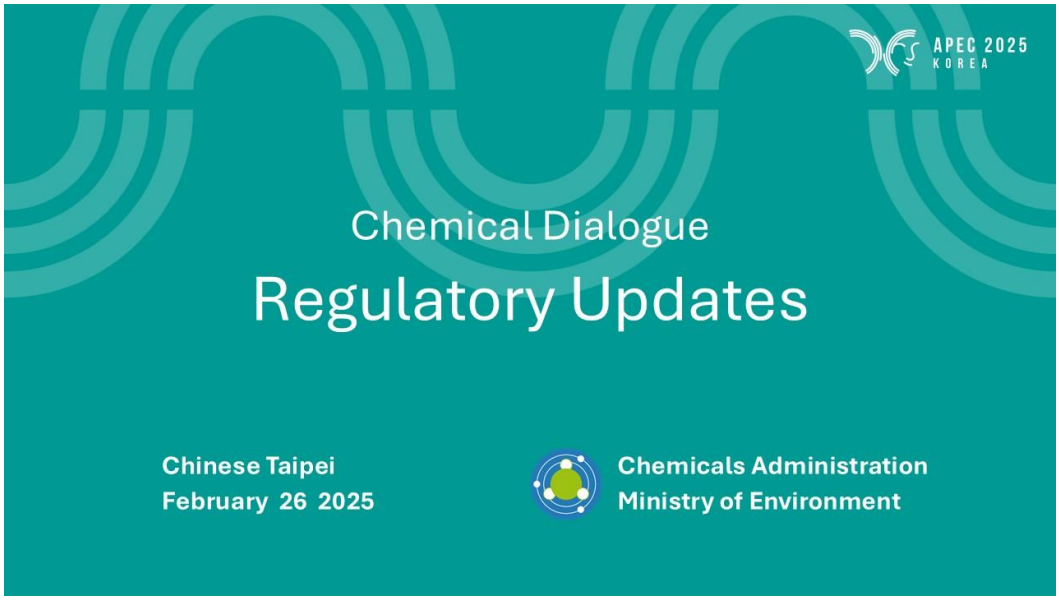
	Meeting Documents ▪ 2025/SOM1/CD/XX Status of the G.R.E.A.T. Project Chinese Taipei will deliver a short update on the GHS Reference Exchange and Tool ("G.R.E.A.T.") project and website.
11:45-12:00 [15 min]	**4.2 Virtual Working Group on GHS** ▪ **Fabien Henry**, Industry Co-Chair, VWG on GHS Meeting Documents ▪ 2025/SOM1/CD/XX Virtual Working Group on GHS Update The Industry Co-Chair of the Virtual Working Group will provide an update regarding implementation of VWG on GHS 2025 workplan, including the implementation of the project "Capacity Building on GHS Implementation Convergence" and updates regarding the 2025 workplan.
12:00-12:15 **[15 min]**	**5. Data Exchange** *(Presenters are encouraged to reserve several minutes for questions following each presentation)*
12:00-12:15 [15 min]	**5.1 Virtual Working Group on Data Exchange – Progress Report** ▪ **Co-Chairs,** Virtual Working Group on Data Exchange (Russian Federation) Meeting Documents ▪ 2025/SOM1/CD/XX VWG on Data Exchange An update will be provided regarding implementation of the VWG on Data Exchange work plan, including an update on the proposed Masterminds for chemical regulators and the Interactive Guide update as well.
12:15 – 14:00	**Lunch Break**
14:00-14:30 **[30 min]**	**6. Marine Debris and Sustainability** *(Presenters are encouraged to reserve several minutes for questions following each presentation)*

14:00-14:10 [10 min]	**6.1 <u>APEC-Funded Concept Note on the Latest Plastic Recycling Technologies and Their Policy Applications</u>** ▪ **<u>Representatives from Korea</u>** Korea will present an APEC-Funded project on plastic recycling technologies and their policy applications. This project includes a workshop that will be held during SOM3. The workshop aims to strengthen policy capacity in alignment with APEC's sustainable growth goals. It will cover a range of topics, including the newest recycling technologies, best practices in waste management, and policy frameworks for effective recycling initiatives. By enhancing the capacities of policymakers and industry stakeholders through this workshop, the project will contribute significantly to structural reforms for sustainable green growth (SRSGG). The collaboration and knowledge sharing facilitated by this event are expected to lead to innovative solutions and more robust policy frameworks to combat plastic waste effectively.
14:10 – 14:20 [10 min]	**6.2 <u>Virtual Working Group on Marine Debris</u>** ▪ **Olivia Hernandez**, Virtual Working Group on Marine Debris <u>Meeting Documents</u> ▪ 2025/SOM1/CD/XX Virtual Working Group on Marine Debris The coordinator for the Virtual Working Group on Marine Debris will present on APEC's recent work on marine debris, including related work taking place in the CTI, OFWG, GOS, SCSC etc.
14:20 – 14:30 [10 min]	**<u>6.3 Revolutionizing Asbestos Roof Management: The First Large-Scale Remote Sensing Implementation</u>** ▪ **Guang-Wen Lien**, Chemicals Administration, Ministry of Environment, Chinese Taipei <u>Meeting Documents</u> ▪ 2025/SOM1/CD/XX Virtual Working Group on Marine Debris The Ministry of Environment utilizes remote sensing technology, artificial intelligence, and machine learning to map the distribution of asbestos roofing across large areas. These findings can support the development of informed decision-making strategies and effective removal policies.
14:30-15:10 **[40 min]**	**7. Future of the Chemical Dialogue** *(Presenters are encouraged to reserve several minutes for questions following each presentation)*

14:30-15:10 [40 min]	**7.1 <u>Future of the CD</u>** The Government and Industry Co-Chairs will lead the continued open dialogue on the future of the CD, including Members' priorities, its workplan, and its potential expiration, 31 December 2025, as laid out in its Terms of Reference.
15:10-15:40 **[30 min]**	**8. Meeting Summary and Next Steps**
15:10-15:25 [15 min]	**8.1 <u>Meeting Summary</u>** ▪ **Ryan MacFarlane**, Asia Pacific Chemical Industry Coalition (APCIC) A representative from APCIC will summarize the day's discussions and read present the list of agreed upon action items for revision and endorsement by delegates.
15:25-15:30 [5 min]	**8.2 <u>Document Classification</u>** ▪ **Nguyen Thu Tra**, Program Director, APEC Secretariat <u>Meeting Documents</u> ▪ 2024/SOM3/CD/XX Document Classification List The APEC CD Secretariat will review the Document Classification List and ask delegates to endorse any revisions within the next two weeks.
15:30-15:40 [10 min]	**8.3 <u>Closing Remarks</u>** ▪ **Kent Shigetomi**, Chemical Dialogue Government Co-Chair ▪ **Sergio Barrientos**, Chemical Dialogue Industry Co-Chair The Government and Industry Co-Chairs will provide closing remarks for the 33rd Chemical Dialogue.
END OF 34th CHEMICAL DIALOGUE	

四、化學署簡報

1. 法規更新



Regulatory Updates

APEC 2025 KOREA

Cross-Ministerial Policy Coordination on PFAS

1. **Ministry of Environment**: Chemical Management, Air & Water Quality, Waste, Soil & Groundwater, Environmental Testing
2. **Ministry of Education**: School Advocacy
3. **National Science and Technology Council**: Research & Technology Review
4. **Ocean Affairs Council**: Marine Protection & Monitoring
5. **Ministry of Finance**: Import/Export Control & Inspection
6. **Ministry of Agriculture**: Pesticides, Feed, Agricultural & Aquatic Product Management and Testing
7. **Ministry of Labor**: Occupational Safety & Health
8. **Ministry of National Defense**: Military Site Pollution Prevention & Remediation
9. **Ministry of Economic Affairs**: Product Management & Alternative Research
10. **National Health Research Institutes**: Human Monitoring Data
11. **Ministry of Health and Welfare**: Food Safety, Contact Materials & Market Surveillance
12. **Ministry of the Interior**: Firefighting Foam Management
13. **National Environmental Research Academy**: Evaluation Strategies & Models for Environmental Governance

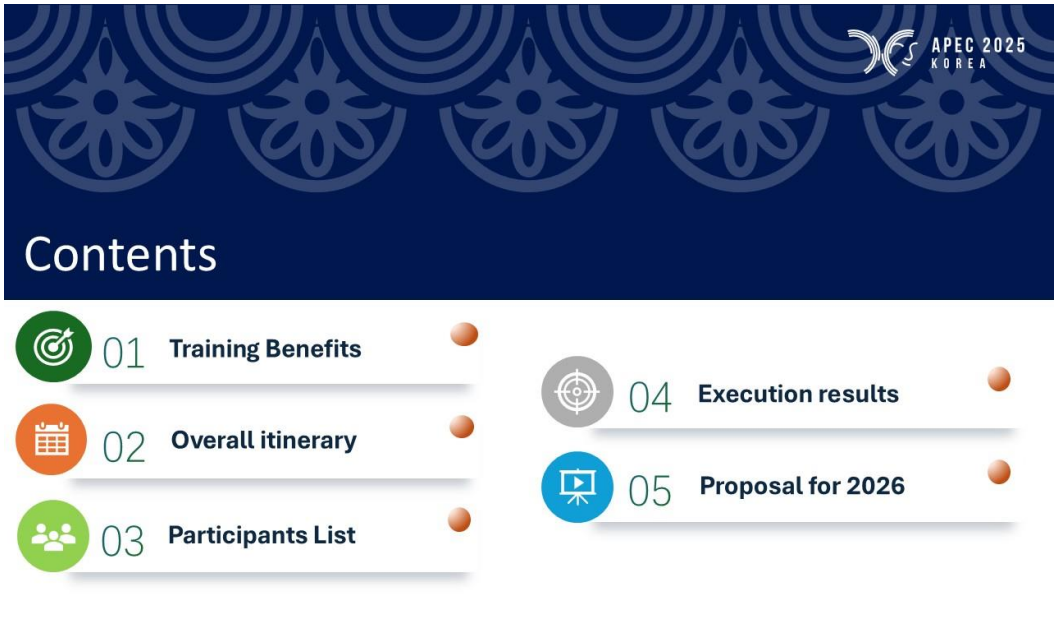
13 ministries managing PFAS according to their respective responsibilities

3

APEC 2025 KOREA

Thank you

2. 化學緊急應變能力建構培訓計畫



1. Training Benefits

APEC 2025 KOREA

Chemical Response System
Promoting the member economies to establish/strengthen their chemical response and safety system.

Improve Response Technologies
Improving our response technologies for handling chemical incidents.

International Exchange
Increasing international exchange opportunities and establish good interactive relationships.

Strengthen Response Capability
Strengthening chemical response capabilities of trained personnel.

2. Overall itinerary

APEC 2025 KOREA

The overall training lasts 8 days and 7 nights.

- Event Date: **September 22, 2024 – September 29, 2024**
- Event Venue: **Kaohsiung University of Science and Technology (First Campus)**

Activities item

- The key activities includes: Welcome reception dinner, opening ceremony and tour of the Training Center, technician level training, closing ceremony, and a cultural tour.

3. Participants List

Through the APEC project invitation process, a total of six member economies have registered, with a total of 22 participants. To maximize the training benefits, representatives from other organizations have been invited to join at their own expense. Final number of participants is 25 .

18 man **(72%)**

7 female **(28%)**

	Number	Affiliated Organization and Division
Peru	1	Sociedad Nacional de Industrias- SNI
	2	Ministry of Environment
Republic of Korea	3	National Fire Agency
Vietnam	4	Chemical Management Division, Vietnam Chemicals Agency
	1	Ho Chi Minh City University of Transport
Malaysia	4	Department of Occupational Safety and Health
Chinese Taipei	1	Chemicals Administration, Ministry Of Environment
	1	Industrial Technology Research Institute
	3	Environmental Incidents Specialist Team
Thailand	1	The Chemours (Thailand) Company Limited
Poland	2	Fire University, Warsaw,
France	1	Cedre

4. Execution results

PART 1 Welcome reception dinner

Create a platform for exchange and provide ice-breaking opportunities, allowing the host and organizing teams to interact naturally with international participants during a relaxed and enjoyable banquet.

Welcome Speech

The host organization delivers a welcome speech and proposes a toast.

Table Greetings & Gift Presentation

Officials visit each table to greet guests and express appreciation for their visit.

The host organization introduces and presents souvenirs.

4. Execution results

APEC 2025 KOREA

PART 2 **Opening ceremony**

- The training has received recognition from various organizations.
- A video message with words of encouragement from the APEC Co-Chair and the Minister of Environment will be presented.
- The event will conclude perfectly with a group photo.

4. Execution results

APEC 2025

PART 2 **SERT Site Visit**

Introductory Presentation
Introduction to Kaohsiung's geographical features and the origin of the training facility establishment.

Facility Tour
Introduction to the training facility's hands-on modules.

4. Execution results

PART 3 **Technician level training**

- The training follows NFPA 472 Technician training, combining lecture and hands-on courses, all delivered in English.
- A total of 40 Hours training

Level	hours	Course
Full-Scale Exercise and Table-top Drill	8	• Communication, crisis management, Incident Command System and Table-top drill • Group ER competition
Advanced Course	20	• Transloading of toner, drum and tank truck • ER of Tank truck, storage tanks, and pipeline leaks • ER of gas cylinder and ton container • Maze - Training for Experiencing ER Stresses • Monitoring and Detection Equipment • Implement Monitoring and Detection Equipment
Basic Course	12	• Introduction to toxic chemicals disaster response • Emergency Response Information Search and Application • Introduce Emergency response system • On-scene hazard identification and case studies • Introduce to PPE and decontamination • PPE and decontamination practice

PART 3 **Technician level training**

Basic Course

- **In first part of training, the focus is primarily on fundamental knowledge of hazmat.**
- **Each participant was provided with their own PPE set. This ensures throughout training, from initial exercises to practical applications and final completion, helping trainees become fully familiar with the operation of their assigned PPEs.**




Lectures

Hands-on lesson & Implement




PART 3 Technician level training

Advanced Course

- **Once trainees have acquired fundamental response knowledge and are familiar with donning PPE, the training extends to various advanced specialized courses, including:**

- Transloading Operations
- Leak Sealing for Containers/Facilities
- Advanced Detection and Monitoring Equipment
- Maze for Experiencing ER Stress

Transloading & Leak Sealing

Detection and Monitoring Equipment & Maze for ER Stress

PART 3 Technician level training

Full-Scale Exercise

- **Real, multiple leaks were used to simulate an incident.**
- **The team must assign commander, assign members to conduct on-site inspections, and decide on different response operations based on the situation to complete the overall exercise.**

PART 3 Technician level training

Tabletop Drill

- **This course focuses on the role of the commander.**
- **Each group is divided into On-scene operation team and Commander team**
- **Each group need to develop an on-scene safety action plan, and this exercise utilizes computer software to display the incident scenario and the response process.**

Several 53-gallon drums containing Acrylonitrile were fallen from a truck. The drums were leaking with an irritating odor.

Group A –Operation Team(left)+Commander Team(right)

Group B–Operation Team(left)+Commander Team(right)

4. Execution results

APEC 2025 KOREA

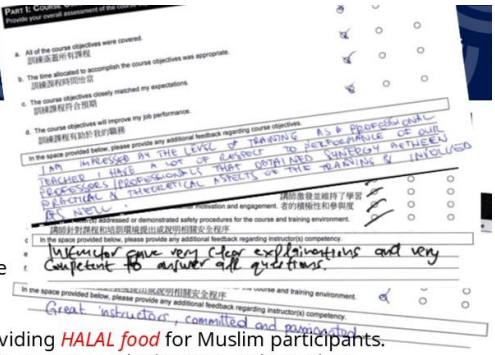
PART 4 Closing Ceremony & Feedback

- The closing ceremony was held on the final day of training.
- During the ceremony, trainees will share their experiences and reflections.

Experience sharing

Video appreciation & Certificate of completion

4. Execution results



PART 4 Closing Ceremony & Feedback

- ***All*** participants gave positive feedbacks.
- Specific feedbacks were listed below:
- Class objective very *useful to my job* scope of work.
- All team *demonstrate the knowledge* in the topics.
- SERT is a *good training center* and professional course
- Materials provided in class is very *helpful and clear*.
- Training will *be very useful* for my job.
- Good hospitality by the organizer. Thank you for providing *HALAL food* for Muslim participants.
- The course *satisfy our expectation*. The course can help someone. The instructor showed us experience. The material was appropriate. The course was very interesting.
- I'm *impressed by the level* of training. As a professional teacher, I have a lot of respect to performance of our professors/professionals that obtained *synergy between practical & theoretical* aspects of the training & involved as well.
- Very available and clear interesting, *perfect balance* between theory and practice. Thanks!
- Instructor gave very clear explanation and *competent to answer* all questions.
- I highly appreciate the level of content of the lectures and the *huge range* of practical aspects (knowledge) in the field of chemical rescue.
- Great instructors, committed and *passionated*.

4. Execution results

APEC 2025 KOREA

PART 5 Culture Tour

- **This cultural tour specially arranged for trainees to visit two of Kaohsiung famous attraction—Pier-2 Art Center and Kaohsiung Port—showcasing the historical charm and the modern allure of its harbor. Through sightseeing boat route, trainees experience the breathtaking views of Kaohsiung Port from the sea.**



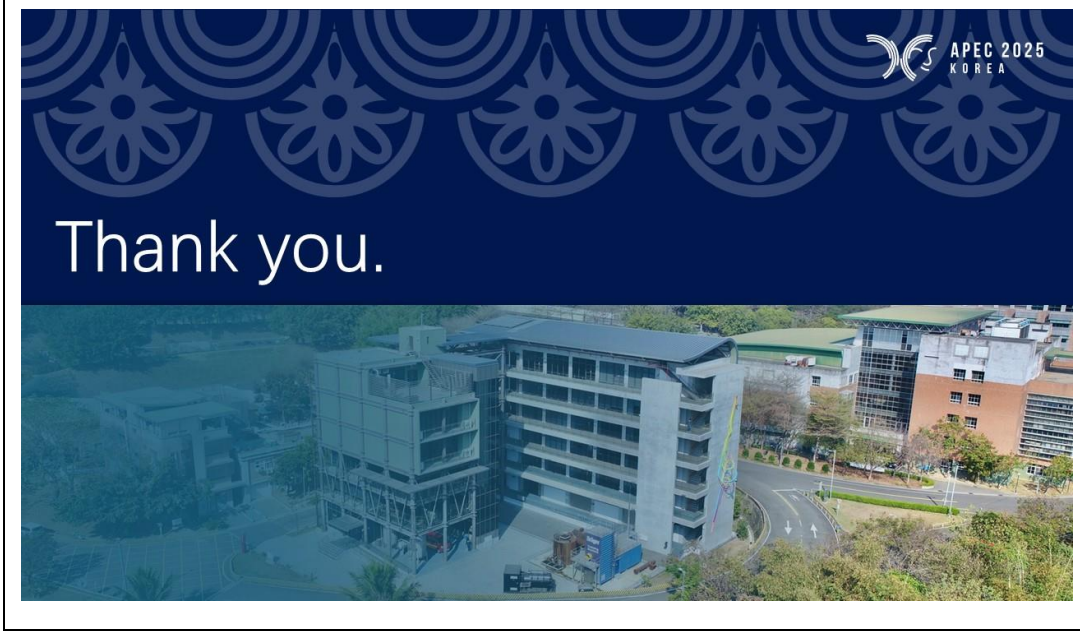




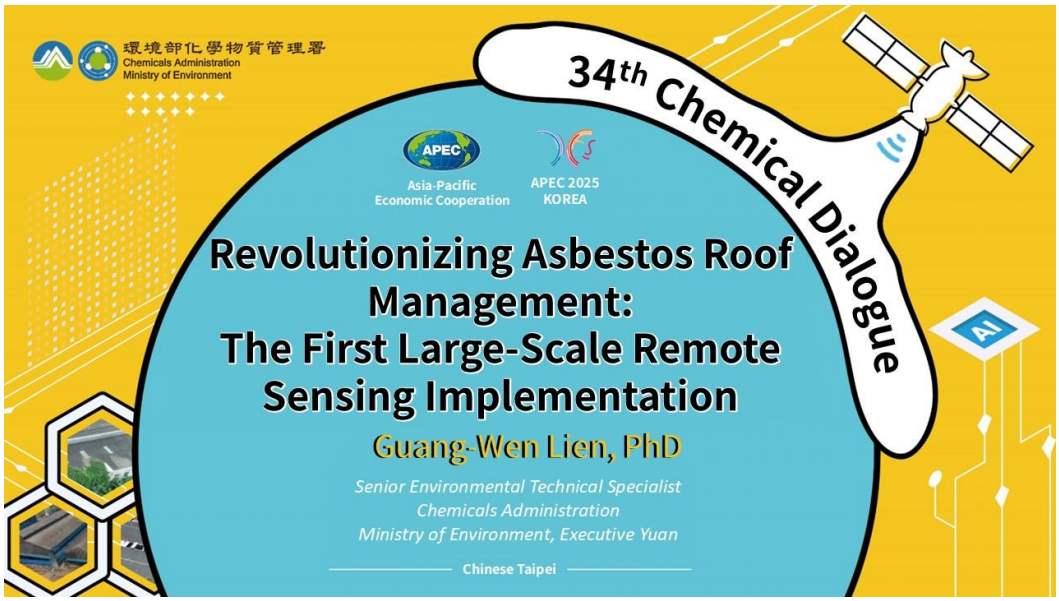
4. Execution results

5. Proposal for 2026 Training Program

- The shared Goal 3 of Chemical Dialogue is "To enable effective cooperation between industry and governments to improve chemical product stewardship and safe use."
- The self-funded 2024 training program has built a successful link and cooperation between member economies and met the above goal.
- To further strengthen the link and cooperation, Chinese Taipei propose to apply for a partially-funded training project in 2026 with a total budget of US$120,000, and Chinese Taipei Ministry of Environment has agreed to support half of the fund.
- The 2026 training program aims to extend the successful 2024 course to include special topics including chemical emergency in the high-tech manufacturing processes. This will be a unique opportunity for member economies to facilitate the *safe* development of high-tech manufacturing capacity such as semiconductor, PV, and related industries.
- SERT has been training TSMC, Winbond etc., and has the state-of-the-art facilities.
- The proposal will be submitted before SOM3.


APEC 2025
KOREA
Thank you.

3. 運用遙測技術管理石綿屋頂之相關成果



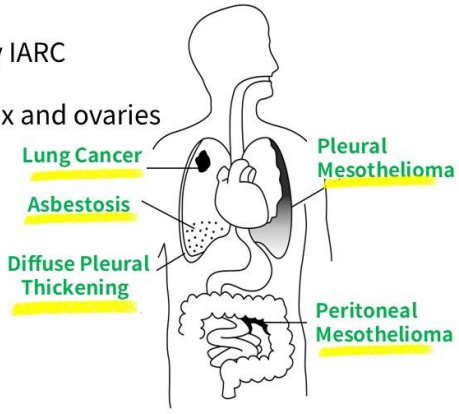
Toxicological Findings on Asbestos

Carcinogenicity
- Classified as a group 1 carcinogen by IARC
- Mesothelioma
- Lung cancer and cancers of the larynx and ovaries

Respiratory Diseases
- Asbestosis
- Pleural plaques & effusions

Latency Period
10–50 years

No Safe Exposure Level



3

Mechanisms

Fiber Persistence
Inflammation and damage

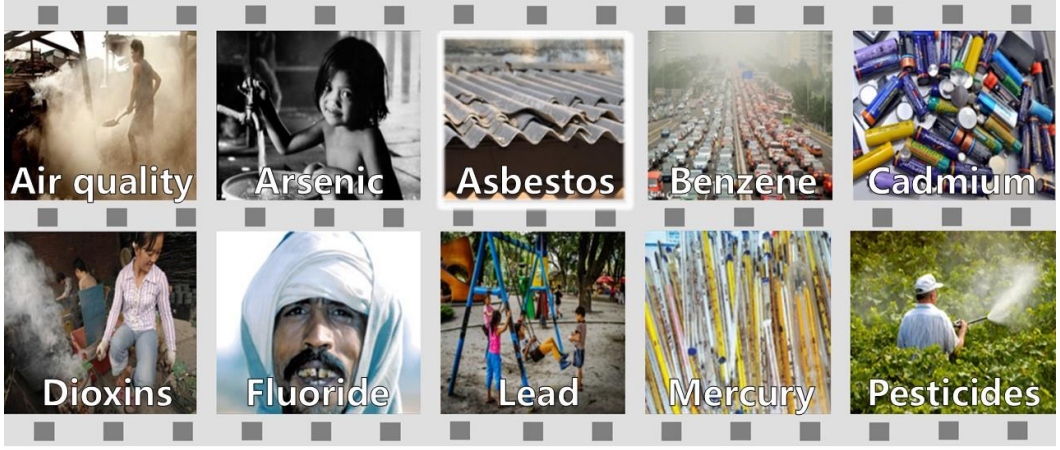
Chronic Inflammation
Oxidative stress and genetic mutations

4

WHO International Programme on Chemical Safety

10 chemicals of public health concern

June 2020



Unresolved Issues

- Incomplete global bans
- Older buildings still contain asbestos materials
- Occupational exposure
- Health impact and compensation
- Environmental contamination
- Lack of public awareness

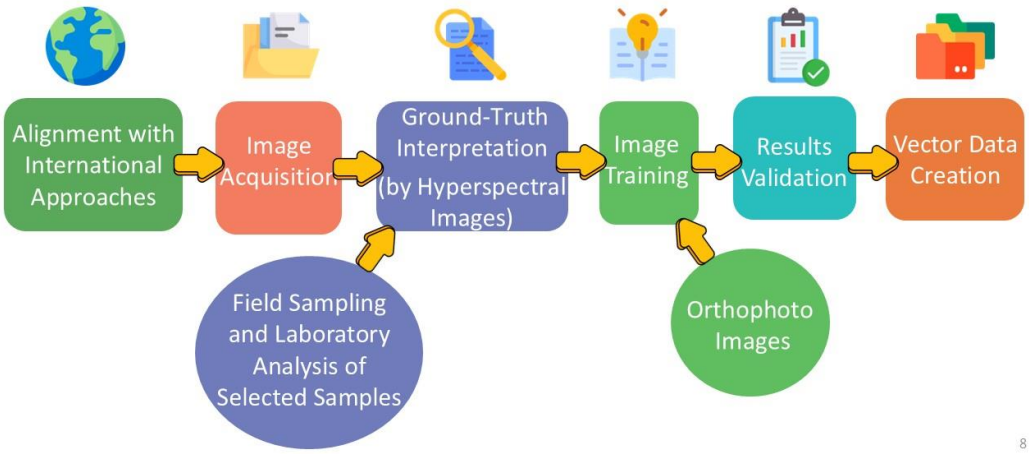
6

Aims

- Establishing a method for determining the spatial distribution of asbestos-containing building materials.
  - A cost-effective and efficient approach for identifying asbestos roofing materials across large areas.
  - Automatic detection of asbestos-cement corrugated roofing tiles using machine learning.

7

Research Methodology



8

Data Collection and Integration

The first large-scale interpretation targeting asbestos tiles

Integrate an enormous amount of data from 5 major image sources

1 **Aerial Orthophoto Images**

2006-2016
15-25 cm
3 bands

2 **Aerial Hyperspectral Images**

2012-2018
1 m
72 bands

3 **Satellite Images**

2016-2021
10-20-60 m
13 bands

4 **2017-2021 Google Street View**

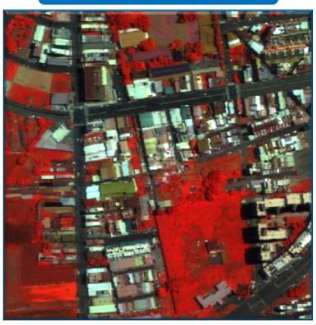
5 **2020-2021年 UAV**

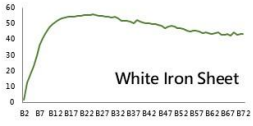
9

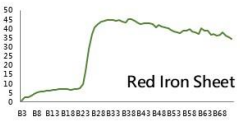
Hyperspectral Images-Truth-Grounding

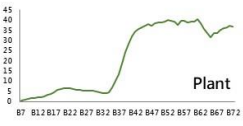
X-ray diffraction

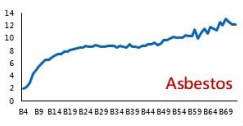
Aerial Hyperspectral



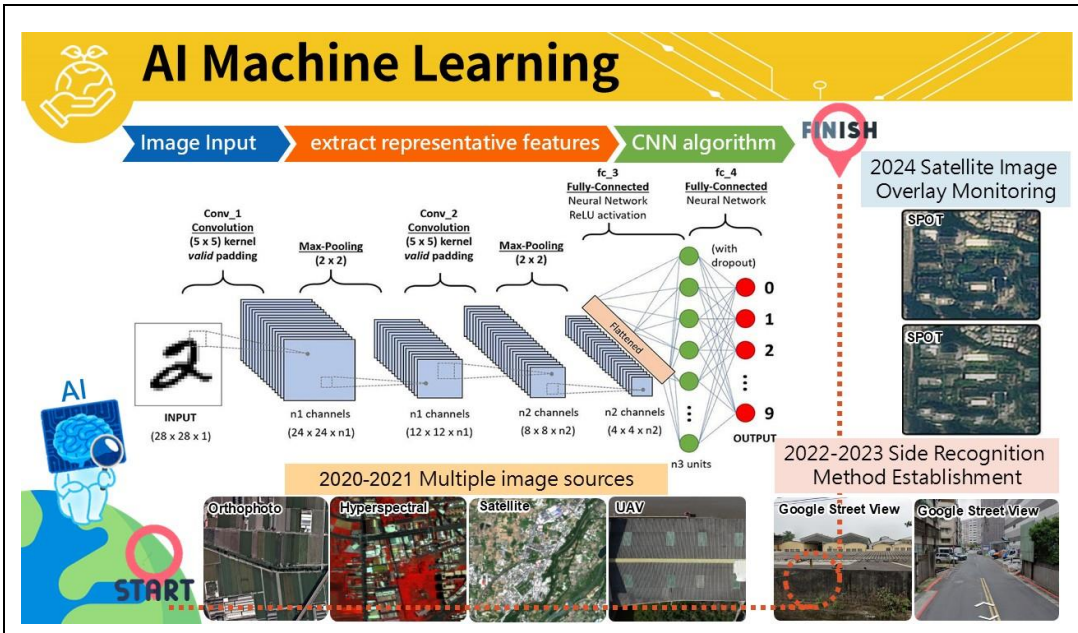


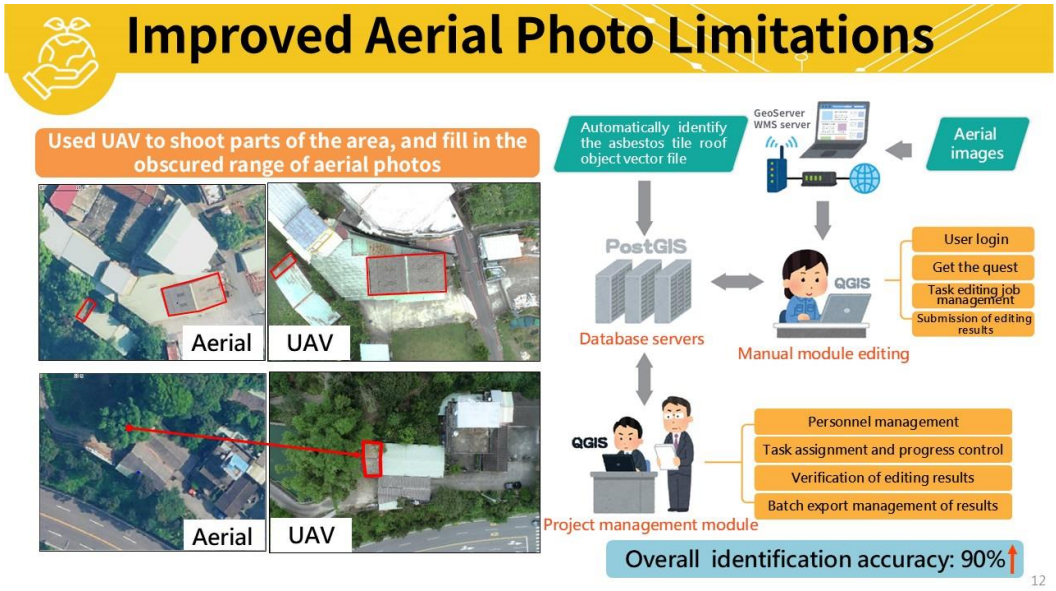




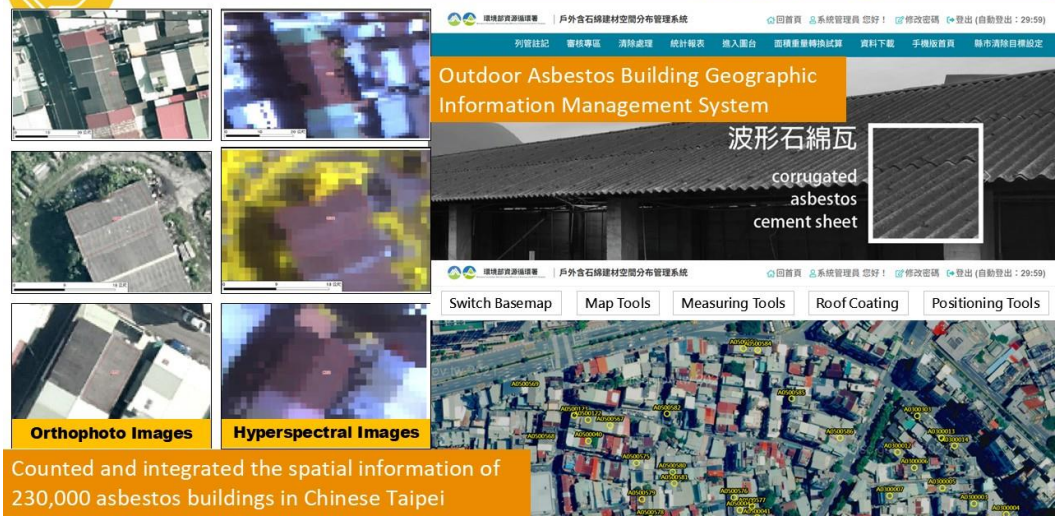


10


AI Machine Learning
Image Input
extract representative features
CNN algorithm
FINISH
2024 Satellite Image Overlay Monitoring
SPOT
SPOT
Conv_1 Convolution (5 x 5) kernel valid padding
Max-Pooling (2 x 2)
Conv_2 Convolution (5 x 5) kernel valid padding
Max-Pooling (2 x 2)
fc_3 Fully-Connected Neural Network ReLU activation
fc_4 Fully-Connected Neural Network
(with dropout)
Flattened
0
1
2
9
INPUT (28 x 28 x 1)
n1 channels (24 x 24 x n1)
n1 channels (12 x 12 x n1)
n2 channels (8 x 8 x n2)
n2 channels (4 x 4 x n2)
OUTPUT
n3 units
AI
START
2020-2021 Multiple image sources
Orthophoto
Hyperspectral
Satellite
UAV
2022-2023 Side Recognition Method Establishment
Google Street View
Google Street View


Improved Aerial Photo Limitations
Used UAV to shoot parts of the area, and fill in the obscured range of aerial photos
Aerial
UAV
Aerial
UAV
Automatically identify the asbestos tile roof object vector file
GeoServer WMS server
Aerial images
PostGIS
Database servers
QGIS
Manual module editing
User login
Get the quest
Task editing job management
Submission of editing results
QGIS
Project management module
Personnel management
Task assignment and progress control
Verification of editing results
Batch export management of results
Overall identification accuracy: 90%
12

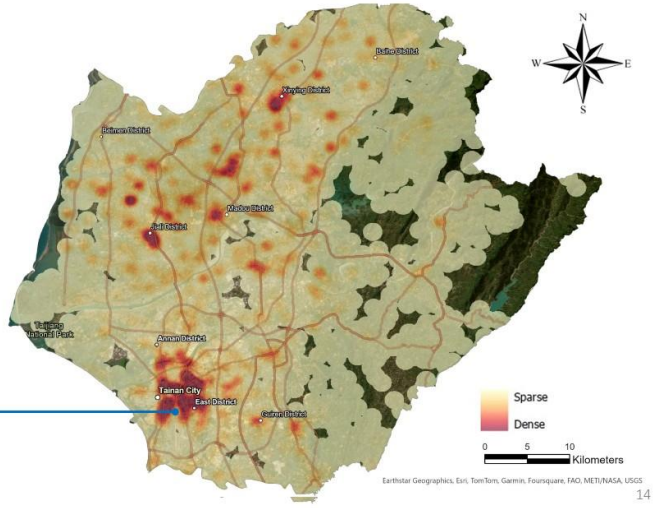
Survey of Asbestos Roof Tiles



Asbestos Building Location Hot Zone

Basemap

Asbestos Building Location Heat Map (Tainan)



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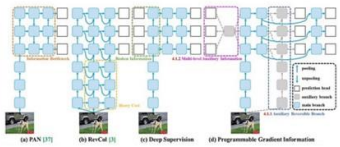
AI Automatic Recognition of Building Sides

Image Collection
1. Google Street View
2. Drone Photography
3. Mobile Phone Images

AI System
1. Ground Truth Data
2. Model Training
3. Asbestos Tile Detection

Geographic System
1. Building Coordinates
2. Manual Editing
3. Asbestos GIS Map



YOLO V9 Model

15

Conclusions

- First research to locate and estimate asbestos-cement corrugated roofing tiles over a large area (36,000 km^2).
- Used historical and free satellite images to achieve accurate estimation at a lower cost.
- Findings provide valuable data for decision-making and asbestos removal policies.

Acknowledgements

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Ministry of Environment
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