18th Conference on Good Regulatory Practice (GRP18)

APEC Sub-Committee on Standards and Conformance

December 2025

Asia-Pacific Economic Cooperation

Asia-Pacific
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Executive Summary

The 18th Conference on Good Regulatory Practice (GRP18), organized under the APEC Sub-Committee on Standards and Conformance (SCSC) and co-hosted by the APEC Economic Committee, was successfully held in Incheon, Korea in August 2025. This two-day conference brought together an estimated 60 participants, including regulatory policy experts, decision-makers, academics, and representatives from the private and public sectors across APEC economies. The central theme of GRP18 was to explore how emerging digital technologies, such as Artificial Intelligence (AI) and Big Data, influence regulatory development and how these technologies can be leveraged to enhance good regulatory practices (GRPs).

The conference served as a crucial platform for APEC economies to share experiences and best practices in regulating new technologies and applying digital tools to regulatory design, impact assessment, and stakeholder consultation. Key discussions focused on addressing cybersecurity risks, ensuring data protection, harmonizing regulation and technology development, and building capacity for digital-era regulation. GRP18 directly supported the APEC Putrajaya Vision 2040 and the Aotearoa Plan of Action, underscoring the importance of GRPs in fostering innovation, a robust digital economy, and transparent regulatory environments conducive to trade and investment.

A pre-conference survey provided foundational data on key interest areas, which informed the conference agenda and interactive sessions. The anticipated outcomes include increased knowledge and understanding among participants regarding digital technologies in regulatory policy, governance models for digital frameworks, and greater interest in technical cooperation. This report summarizes the proceedings, key discussions, and outlines recommendations for advancing digital-era regulation and strengthening GRP implementation across the APEC region.

Project Overview and Objectives

The project, titled "18th Conference on Good Regulatory Practice (GRP18)," aimed to strengthen cooperation among APEC economies in advancing regulatory policies amidst rapidly evolving technological landscapes. New technologies offer significant potential for simplifying tasks, securing transactions, and accelerating regulatory development by facilitating remote stakeholder engagement. However, without harmonized regulations, these technologies can disrupt trade and lead to uneven economic growth.

The primary objectives of GRP18 were:

- **Build Capacity:** To enhance the capacity of trade and regulatory officials in applying GRPs to new and emerging issues, particularly those related to digital technologies.
- **Share Experiences:** To facilitate the exchange of experiences among APEC member economies on regulatory practices, regulatory modernization, and the application of GRPs.
- **Promote Reliance on GRPs:** To advocate for greater reliance on GRPs to effectively address emerging regulatory issues, achieve better outcomes for citizens, and promote trade and economic growth.
- **Ensure Regulatory Coherence:** To minimize regulatory differences between economies that could hinder trade, economic growth, and human resource development.
- **Leverage Digital Technologies:** To explore how digital technologies can strengthen GRP implementation in regulatory design, impact assessment, and stakeholder consultation.
- **Examine Regulatory Approaches:** To analyze regulatory approaches to emerging technologies like AI, cybersecurity, and cross-border data flows, differentiating between binding and non-binding frameworks.

Pre-Conference Survey

As an initial output of the project, a pre-conference survey was conducted by e-mail and distributed to potential participants and speakers. The survey aimed to identify key areas of interest among APEC economies concerning digital technologies and regulatory practices. The findings from this survey were crucial for shaping the conference agenda and ensuring its relevance to the needs of member economies. Key insights from the survey were presented during a dedicated session on Day 1 of the conference.

A total of 6 respondents from 5 economies (Brunei Darussalam; China; Hong Kong, China; Chinese Taipei; and Thailand) participated in the survey. The key findings are summarized below:

- **Respondent Information:** The respondents represented a mix of institutional backgrounds. Three were from government/regulatory authorities, two from standardization bodies, and one from the conformity assessment and quality services field. This provided a balanced perspective combining policymaking and technical expertise.
- **Overall Awareness of GRP Principles:** Perceptions of awareness varied across economies. Two respondents rated awareness as *high*, two as *moderate*, and one reported it as low. This reflects uneven levels of GRP familiarity, with more advanced economies reporting stronger awareness.
- **Session Interest:** Respondents expressed diverse but consistent interest in multiple sessions. The most frequently selected were: *Session 1. Cases of Applying Digital Technologies to Good Regulatory Practices,* *Session 5. Harmonizing Regulation and Technology Development,* *Session 3. Addressing Cybersecurity Risks, Ensuring Data Protection and Secure Data Flows.* Interest was also shown in *interactive sessions on digital tools* and *policy–tech alignment*, while Hong Kong, China did not indicate specific preferences.
- **Involvement in Digital Technology Regulation and GRP Implementation Status:** Four out of six respondents indicated their organizations were involved in developing or implementing digital technology-related policies. GRP implementation status ranged from fully integrated (Chinese Taipei; Thailand), to partially applied (Thailand), to under discussion (Brunei Darussalam; China).
- **Most Relevant Digital Technology Domains:** Digital platforms and e-commerce were emphasized by China; Chinese Taipei; and Thailand. Cybersecurity was identified by Brunei Darussalam and Thailand. Other important domains included Artificial Intelligence (AI), Internet of Things (IoT), blockchain, and cloud computing.
- **Frequently Used GRP Elements and Approaches:** Transparency and public consultation, regulatory impact assessment (RIA), and stakeholder engagement were the most widely used GRP tools. Use of international standards, regulatory cooperation, and review of existing regulations were also highlighted by several economies.

- **Collaboration Experiences and Challenges:** Most economies had limited collaboration experiences in applying GRP to digital technology. Only one respondent reported engaging in activities such as exchange of experts or sharing best practices. Common challenges included insufficient interagency coordination (reported by Brunei Darussalam; China; and Thailand), fast pace of technological change (Chinese Taipei), limited stakeholder engagement (Brunei Darussalam), and legal or institutional barriers (Thailand).
- **Future Cooperation and Capacity-Building Support:** Economies expressed interest in establishing an APEC-wide GRP in Digital Technology network and developing common guidelines (Brunei Darussalam; China; Chinese Taipei). Brunei Darussalam emphasized exchange of regulatory officials, while Thailand highlighted technical assistance and peer review. The most requested forms of capacity building were development of GRP toolkits, best practice sharing, technical training for regulators, and joint pilot projects.
- **Plans to Utilize Digital Technologies:** China; Chinese Taipei; and Thailand reported being in the initial stages of utilizing AI and big data for GRP evaluation and implementation. Brunei Darussalam indicated no current plans, while other respondents did not provide specific responses.
- **Evolution of GRP Framework:** China stressed the importance of expanding stakeholder engagement and enhancing international alignment. Brunei Darussalam emphasized the adoption of data-driven evaluation systems. Thailand pointed to international alignment, while Chinese Taipei highlighted both regulatory agility and stakeholder engagement.
- **Open Comments:** China recommended strengthening standardization in areas such as data governance and supervision of the platform economy. Brunei Darussalam suggested developing APEC-wide guidelines for GRP in digital technology and improving transparency in digital access and use, while also questioning the need for specific GRP laws. Chinese Taipei noted that GRP has been embedded in its legislative procedures since 2004, continuously monitoring international regulatory trends and supporting APEC's efforts to promote GRP in digital technology.

Conference Summary and Key Discussions

The GRP18 conference was held over two full days on 6-7 August 2025, on the margins of APEC SOM3 in Incheon, Korea. The agenda was designed to facilitate in-depth discussions and interactive exchanges on critical themes related to technology and regulation.

The sessions included:

Session 1: Cases of Applying Digital Technologies to Good Regulatory Practice

- **Date/Time:** 6 August 2025 (Day 1)
- **Speakers:** Narun Pottanachai, Nurul Farahaton Najihan Jusoh, Johann Welby Leaman

1. Thailand – Narun Pottanachai (Office of the Council of State)
Thailand has been developing and operating an AI-based regulatory consistency analysis system to strengthen international regulatory cooperation and align with global standards. In particular, aiming to join the OECD, Thailand introduced advanced generative AI-based translation and semantic expansion technologies to overcome language barriers and siloed collaboration across ministries when comparing approximately 100,000 domestic regulations with 250 OECD documents.

The system translates OECD documents into Thai, identifies key action items, and automatically matches them with domestic regulations to analyze regulatory "gaps." The AI-generated results are then reviewed and corrected by human experts to ensure reliability. The system is currently at the proof-of-concept (PoC) and pilot stage, and the Thai government plans to further advance it over the next three years.

2. Malaysia – Nurul Farahaton Najihan Jusoh (Malaysia Productivity Corporation)
Since the introduction of the "National Policy on the Development and Implementation of Regulations (NPDIR 1.0)" in 2013, Malaysia has continuously improved its comprehensive policy framework, expanding Good Regulatory Practices (GRP) to state and local governments. The forthcoming "Government Service Efficiency Commitment Act (GSEC Act)," to be enacted in 2025, aims to institutionalize regulatory reform, reduce bureaucracy, cut regulatory burdens by over 25%, and legislate the "One-In-One-Out" policy.

To support GRP processes, Malaysia has actively adopted digital tools such as Digital Regulatory Notification (DRN), Digital Regulatory Impact Assessment (DRIS), and the Unified Public Consultation (UPC) Portal. These systems enhance the efficiency and transparency of regulatory evaluation and consultation procedures through real-time tracking, workflow automation, and structured decision-making support. Ultimately, this digital transition plays a crucial role in establishing high-quality, evidence-based policies and improving overall effectiveness in regulatory processes.

3. United States – Johann Welby Leaman (Moderator, Walmart Inc.)
"Consultation Squared" is a new engagement model in which companies actively interact with stakeholders—customers, suppliers, and others—and integrate their feedback into public policy and regulatory processes. The core of this approach lies in combining AI technologies with respect for stakeholder autonomy to achieve genuine communication and policy innovation.

AI should serve not merely as an analytical tool but as a "guide for dialogue." By drastically reducing the transaction costs of engagement, AI enables broader, iterative, and deeper communication with stakeholders. Crucially, the time saved through AI should be reinvested in more meaningful engagement activities.

For effective implementation, six key lessons apply:

1. Understanding the essence of data
2. Designing sophisticated questions
3. Providing tailored feedback to stakeholders
4. Iteration
5. Reinvestment of time
6. Development of diverse regulatory options

Ultimately, this approach allows AI to introduce flexibility into regulatory processes and forms, enabling a new regulatory model that achieves both pluralism and efficiency by reflecting diverse voices.

Session 2: Interactive Session 1 – Sharing Insights on Digital Tools for Effective GRP

- **Theme:** Sharing Insights on Digital Tools for Effective GRP
- **Speakers:**
    - Moderator: Johann Welby Leaman
    - Panelists: Narun Pottanachai, Nurul Farahaton Najihan Jusoh

Q: What was the biggest challenge in driving regulatory innovation through digital tools, and how was it overcome?

- **Narun Pottanachai:** The greatest challenge in Thailand was resistance to change in existing practices and mindsets within organizations. It was particularly difficult to convey to legal experts that "regulatory procedures are now embedded in the system, and your role is not an implementer but a supervisor." To overcome this, the government promoted inter-ministerial cooperation from the beginning, redefined institutional roles, and provided training to instill the understanding that "technology evolves gradually."

- **Nurul Farahaton Najihan Jusoh:** Malaysia highlighted that despite rapid growth in digital fields such as AI, data centers, and e-commerce, the regulatory environment has not kept pace. Hence, there is a need to move away from uniform regulation toward principle-based, flexible, and adaptive regulatory frameworks.

Q: How was Thailand's LLM-based policy analysis system developed, and how is gap analysis and OECD recommendations applied?

- **Narun Pottanachai:** Thailand co-developed the system with regional partners using globally available Large Language Models (LLMs) in a closed-loop environment. While the global model's updates are incorporated, the system is designed to ensure no data leakage outside. The system pre-analyzes whether newly proposed policies from ministries conflict with existing ones, with AI serving only as an assistant to human judgment. It is currently in pilot operation with plans for expansion to other ministries, while constraints in linking it with the government procurement system are being gradually resolved.

Q: Walmart mentioned collecting large-scale data—how is this used in regulatory development?

- **Johann Welby Leaman:** Walmart directly integrates diverse opinions derived from internal working groups into government public hearings or "Notice & Comment" processes. Where multiple positions emerge internally, all are submitted to the government. The system is also being extended to allow ordinary citizens to submit opinions, aiming to create an ecosystem where business and policy collaborate.

Q: What digital platforms does Thailand operate for public consultation, and how are the results reflected in policy?

- **Narun Pottanachai:** Thailand uses a digital platform called "Law Go" to collect citizens' suggestions and feedback. For example, proposals for changes in social welfare systems on social media have sometimes generated 50,000–100,000 comments. While most comments are simple, Thailand plans to introduce an automatic summarization function once a certain volume of comments is reached. The use of GPT-based technologies is under consideration, though approached cautiously due to the sensitive nature of citizen feedback.

Session 3: Addressing Cybersecurity Risks, Ensuring Data Protection and Security

- **Date**: 6 August 2025 (Day 1)
- **Speakers**: Ilsun You, Philip H. KIM, Kuok Chiang KIM

Singapore - Kuok Chiang Kim (Amazon Web Services)
With the accelerated development of technologies such as Artificial Intelligence (AI), 5G networks, and High-Performance Computing (HPC), the importance of Digital Public Infrastructure (DPI) is growing even further. Digital identity verification, data exchange, and open-source-based DPI have a positive impact on citizens' lives but simultaneously present challenges in ensuring security and reliability, particularly with the increasing autonomy of AI applications.

Accordingly, addressing cyber threats such as bot traffic and identity fraud in API-based systems is essential. Furthermore, with warnings that the commercialization of quantum computing could render existing cryptographic technologies ineffective, the urgent introduction of Post-Quantum Cryptography (PQC) and the establishment of relevant policies have emerged as top priorities.

Therefore, governments must clearly identify their core workloads, design DPI with security, resilience, and flexibility, strengthen crisis response capabilities, and promptly establish PQC implementation plans.

Korea - Philip H. KIM, Brian Tae-Hyun CHUNG [Moderator] (Kim & Chang)
Cybersecurity has evolved from being a simple technical issue to a core business concern, directly linked to executives' legal responsibilities and corporate sustainability. This shift is inevitable due to the expansion of attack targets (AI, supply chains, edge devices) and the sophistication of attack methods (targeted attacks, use of "crime-as-a-service" platforms).

Given this paradigm shift, strong governance leadership at the board level and public-private cooperation to establish threat information-sharing systems are indispensable. Korea's precedent of being the first in the world to legally require financial institutions to appoint a Chief Information Security Officer (CISO) demonstrates that security functions have become central to company-wide governance, beyond just the IT department.

However, as technological development outpaces existing regulation, rigid regulation easily loses effectiveness. As a solution, a public-private cooperation model has been proposed, where the private sector shares expertise and governments provide incentives. Regulation should focus less on chasing individual technologies and more on governance and control, being agile and flexible enough to adapt to new threats.

Ultimately, economies must train skilled professionals and cooperate internationally through regulatory harmonization and information-sharing to avoid repeating mistakes. Those that lag in such cooperation risk becoming prime targets of cyberattacks and suffering greater damage.

Korea - Ilsun You (Kookmin University)
Korea ranks 10th globally in terms of financial damages from data breaches and 2nd relative to GDP, making it one of the most severely affected economies by cyberattacks. In this context, the advancement of quantum computing has materialized the so-called "Quantum Threat", which undermines traditional public-key cryptographic algorithms and could cause severe security issues, particularly in 5G/6G networks and blockchain fields.

The core response measures include:

1. Post-Quantum Cryptography (PQC) to protect existing systems,
2. Quantum Key Distribution (QKD), and
3. Quantum AI.

The ultimate goal is to integrate these three core technologies to establish a Quantum Security Infrastructure, for which international cooperation and standardization are essential. To address this threat, the Korean government plans to transition comprehensively to PQC by 2035.

Session 4: Interactive Session 2 - Ensuring Security in Cybersecurity and Data Protection Regulation: Strategies for Responding to Emerging Technologies

Theme: *Ensuring Security in Cybersecurity and Data Protection Regulation: Strategies for Responding to Emerging Technologies*
Speakers:

- Moderator: Brian Tae-Hyun CHUNG
- Panelists: Ilsun You, Philip H. KIM, Kuok Chiang KIM

Q: What are the experiences and effective approaches to government–private sector cooperation in regulatory development?

- **Kuok Chiang KIM**: Rather than regular regulations, issuing situation-specific advisories is more effective for responding flexibly to changing technological demands. Cooperation and mutual information-sharing with the private sector are essential.

- **Philip H. KIM**: Korea previously focused on technical controls, but now a business-risk perspective is needed. The global trend is strengthening governance centered on leadership, and regulations should focus on executives' roles and responsibilities.

- **Ilsun You**: Emphasizing only ideal security standards increases burdens on the private sector. Practical and cost-related aspects must be considered, and sufficient consultation with industry is necessary for effective regulation.

Q: How should governments respond during the regulatory development process?

- **Philip H. KIM**: Korea is drafting new cybersecurity regulations in the financial sector, shifting from past technology-focused rules to higher-level governance regulations that include board and executive responsibilities. Initially, the National Intelligence Service led cybersecurity, but as private-sector technologies and products advanced, the need for a private-sector-led system has emerged.

- **Ilsun You**: Regulatory development is evolving into a form where private companies, educational institutions, and research organizations participate together. Since many technologies and products originate from global corporations, international standards such as EU GDPR and U.S. FCC standards should serve as references in drafting regulations.

Q: What are your views on concerns that excessive pre-regulation could stifle innovation?

- **Philip H. KIM**: Regulations must remain flexible, ensuring that the private sector has the autonomy to experiment with and adopt new technologies. Regulation should not be seen as a simple compliance target but as a tool to encourage innovation. Governments must engage in continuous dialogue with industry and share success and failure cases across economies for benchmarking.

Q: What do you think about data localization as part of cybersecurity regulations?

- **Kuok Chiang KIM**: The key lies not in the physical location of data but in the exercise of digital sovereignty. Governments must ask cloud service providers, "How are you protecting the data?" Data today is globally distributed across banks, emails, and cloud platforms like Google Drive. Data should be used according to its purpose, and a certain level of localization is needed. However, many companies lack clear awareness of where their data is located or how it is processed. A framework that clearly defines ownership and responsibility across each stage of data processing is necessary. Korea's *MyData* initiative, where users control their own data, is an example. A hybrid approach combining public and private clouds may also be a solution.

Q: What role should governments play in the future?

- **Ilsun You**: From an educational perspective, cybersecurity talent must be identified and nurtured from adolescence, with governments actively supporting talent discovery and career development. In terms of threat information sharing, attackers collaborate, but defenders often respond individually. Institutions like KISA (Korea) and CISA (U.S.) should lead information-sharing, with government support. A fair and reasonable penalty framework is also needed for data breaches.

- **Philip H. KIM**: Education is key, but Korea's cybersecurity market is small and structurally unprofitable. Governments must provide active financial support to cybersecurity firms and R&D, and create incentives to attract and retain top talent.

Session 5: Harmonizing Regulation and Technology Development

- **Date**: 7 August 2025 (Day 2)
- **Speakers**: Kolin Low, Claire McFarland, Nindya Malvins Trimadya, Bona Lee, Minsang Yu

Singapore – Kolin Low (UL Standards & Engagement)
UL (Underwriters Laboratories) is a non-profit organization that operates under the mission of *"Working for a safer world"* through its divisions: UL Research Institute (research), UL Standards & Engagement (standards development), and UL Solutions

(testing and certification). UL emphasizes that international standards are a key means of achieving both public safety and trade facilitation without hindering technological innovation. To this end, UL underscores that the six principles of regulatory design under the WTO TBT Agreement (transparency, openness, fairness, consistency, etc.) remain valid today.

Since starting with standards for electrical technologies in 1894, UL has put these principles into practice through:

- Science-based standards development and transparency secured through online-based public standards development processes and hearings.
- Cooperation with international organizations such as ISO, IEC, and COP to contribute to technological advancement and global agendas such as climate change.
- Expanding digital accessibility and promoting openness and participation through cooperation with developing economies.

Ultimately, UL stresses that policymakers can save time, achieve international harmonization, and support Good Regulatory Practices (GRPs) by making use of international standards.

Australia – Claire McFarland (Standards Australia)
Standards are a crucial means of ensuring that new technologies are introduced into society in a safe and responsible manner, balancing innovation with regulation.

Historical cases illustrate this relationship clearly. For example:

- Copyright regulations initially constrained innovation in the Napster and MP3 cases, but eventually led to the emergence of new commercial service models such as iTunes and Spotify.
- Conversely, the iPhone and iPod are positive cases of innovation enabled by foundational technologies developed through government-supported R&D and university programs.
- The USB standard solved compatibility issues with peripheral devices, contributing to consumer convenience and environmental protection, and later became a successful example backed by EU regulation.

Looking ahead to advanced technologies such as Brain-Computer Interfaces (BCI) and quantum technologies, Claire emphasized that international standardization should proceed from the early stages, even before regulatory discussions begin. For BCI, this includes standardization of data formats, ethics, and reliability, while for quantum technologies, terminology, measurement methods, and performance indicators are necessary. Such early standardization provides the essential foundation for technological development and future regulatory design.

Korea – Minsang Yu (Autonomous A2Z)
Autonomous driving technology is now recognized as an industry where regulation is essential for commercialization, beyond just technical challenges. While international regulatory discussions are taking place under the UN framework, major economies

such as Germany; Japan; and Korea, are actively introducing their own legislation for Level 4 autonomous vehicles rather than waiting.

In particular, Korea became the third economy in the world in 2024 to establish legislation related to autonomous driving. The common commercialization strategy across these economies is a phased introduction in the public transportation and logistics sectors. Korea aims to address issues such as aging populations and driver shortages in rural areas, initially allowing limited operations covering about 3% of the market. Similarly, Singapore adopts a public-sector-led strategy, with all related projects being government-driven.

In conclusion, harmonization between international standards and national regulations is a critical factor for global market entry. Without regulation, neither commercialization of technology nor industry growth is possible. Therefore, regulatory response is just as important as technological development in companies' global strategies.

Korea – Bona Lee (Samsung Electronics)
Samsung Electronics presented its vision of an AI-based smart home that automates household tasks such as washing, cleaning, and temperature control, highlighting the development process of its AI Induction Stove as a concrete example.

This project was launched to address the risk of fire hazards stemming from Korea's cooking culture of long-duration simmering. Although Samsung developed a safe induction stove with remote power-off and monitoring functions, existing regulations prohibited remote control. To solve this, Samsung utilized the regulatory sandbox system, secured approval in collaboration with the Korean Agency for Technology and Standards (KATS) in 2023, and officially launched the product in 2024.

The product includes 16 strong safety functions such as overheat prevention and automatic shut-off, along with innovative features like remote power-off, absence alerts, and pet lock. Additionally, AI-based recipe recommendations, automatic cooking mode settings, and boil-over prevention enhance customer experience.

All functions are integrated through the SmartThings ecosystem, with Knox security solutions ensuring data protection. This case is considered a leading example of responsible innovation achieved by leveraging the regulatory sandbox system to demonstrate technological capability and safety while easing regulations.

Indonesia – Nindya Malvins Trimadya (National Standardization Agency of Indonesia, BSN)
Indonesia is actively adopting GRP (Good Regulatory Practices) to systematically manage technical regulations and national standards (SNI), thereby enhancing transparency, consistency, and international alignment of regulations.

The National Standardization Agency (BSN) oversees this process. Through Regulations No. 7 of 2020 and No. 8 of 2022, Indonesia institutionalized the entire process, including mandatory SNI, regulatory impact analysis (RIA), public consultation, WTO notifications, and ex-post review.

This GRP framework has already been successfully applied in areas such as the cryptographic algorithm conformity assessment system by the National Cyber and Crypto Agency (BSSN) and the digital finance innovation regulatory sandbox by the Financial Services Authority (OJK).

However, challenges remain, including lack of data, insufficient technical expertise, limited stakeholder participation, and weak political support. To address these, the government plans to fully integrate RIA into policy processes, expand pilot projects, strengthen capacity-building training, and develop digital tools to further enhance the GRP system.

Session 6: Interactive Session 3 - Closing the Gap: Challenges and Solutions in Policy–Tech Alignment

Theme: *Closing the Gap: Challenges and Solutions in Policy–Tech Alignment*
Speakers:

- Moderator: Hyunwoo Kim
- Panelists: Kolin Low, Claire McFarland, Nindya Malvins Trimadya, Bona Lee, Minsang Yu

Q: You mentioned transparency and international harmonization as core principles when setting standards. Have there been cases where transparency or harmonization did not work well? What caused delays, and how can standards bodies address this?

- **Kolin Low**: He cited Thailand's public consultation case, where more than 100,000 opinions were submitted due to transparency. Sometimes excessive transparency can become a "disadvantage" for policymakers. The key is balancing transparency with feedback management. Standards bodies should maintain sufficient transparency to gain quality input but avoid unmanageable levels. Drawing on other economies' experiences and multinational companies' practices was suggested as a solution.

Q: Do developing economies in Asia face system gaps in complying with international standards, and does this cause problems in safety or user experience?

- **Kolin Low**: In some developing economies, there is a lack of mature stakeholders capable of providing appropriate input for regulation and standards development. This makes it difficult for policymakers to leverage private-sector data and insights, leading to delays. In addition, limited access to platforms that disseminate standards information is also an issue. In such cases, regulations and standards insufficiently reflecting local circumstances may negatively impact safety and user experience.

Q: What regulations are often overlooked in balancing everyday technologies and innovation?

- **Claire McFarland**: She pointed to “data asymmetry” as the biggest problem. The private sector collects and analyzes vast amounts of data through consumer interaction, while governments lack such resources, creating significant gaps in regulatory development. Open data policies aim to close this gap but remain limited. She stressed that the rich data held by the private sector can be very useful in designing better regulation.

  When asked about regulatory sandboxes in Australia, she explained that while some exist in fintech, customs, and energy, few have been as effectively implemented as the Samsung–KATS case in Korea, where industry and regulators worked together to solve on-site issues. This was praised as a model case. She also noted that in cross-border regulatory differences, the EU GDPR is an example where Europe’s strong regulations set standards for other economies. International standards help promote harmonization, but regulation often lags behind standardization.

Q: Have there been regulations that inconvenience passengers in services such as operating autonomous shuttles?

- **Minsang Yu**: Korea’s Road Traffic Act allows buses to stop only within 10 meters of bus stops. This regulation makes full operation of autonomous buses difficult and may lead to illegal parking. For example, companies like Google Waymo have incurred fines exceeding USD 10,000 annually due to such constraints. Passengers often do not understand these regulatory restrictions, causing inconvenience in their experience.

Q: Beyond the well-known induction case, are there regulations that delay the adoption of smart features in everyday life?

- **Bona Lee**: Safety regulations related to fire risks and child protection often delay the introduction of smart home features. For instance, washing machines are required to have physical confirmation before remote operation, even though AI can confirm that no one is home. Regulations are failing to keep pace with technological advances, and more flexible approaches could improve user convenience. She particularly emphasized that such flexibility would benefit households with elderly or disabled members.

Q: Inclusiveness is a core principle in digital policy. What challenges exist in applying regulations to marginalized or remote areas?

- **Nindya Malvins Trimadya**: Key challenges include:
  - Infrastructure and connectivity inequality in rural and low-income regions.
  - Low digital literacy among groups such as the elderly, informal workers, and small business owners.

- The need to use non-technical language that the general public can easily understand.
- The importance of strengthening policymakers' capacity and technical expertise to develop inclusive digital regulations. He stressed that user-centered approaches and the adoption of accessibility standards are essential to enhancing inclusiveness in smart technologies.

Q: How can smaller economies bring all stakeholders to the same level and avoid being left behind?

- **Nindya Malvins Trimadya**: He noted that some APEC economies lack technological and institutional capacity, which must be addressed through capacity-building and promotion of international standard adoption. International standards are widely recognized and easy to apply when introducing regulations. He emphasized that simultaneous implementation by all economy is unnecessary—what's needed is a **phased implementation mechanism**.

- **Claire McFarland**: She shared Australia's recent example of introducing an **AI management system standard** in ASEAN through a workshop in Jakarta, Indonesia. The standard is a practical tool that guides companies on policy, stakeholders, and risk factors when using AI. It is easily applicable even by SMEs and non-profits, thereby strengthening capabilities across Southeast Asia.

- **Kolin Low**: He introduced the private sector activities of the US-ASEAN Business Council, explaining that companies want regulations and standards aligned with technological development. To this end, they cooperate directly with the ASEAN Consultative Committee on Standards and Quality (ACCSQ), supporting the implementation of cybersecurity international standards (ISO/IEC 27001, etc.) while simultaneously strengthening SME capabilities. He emphasized that SMEs often face not certification hurdles but rather a lack of basic knowledge of standards, so education and certification support are being provided for them.

Each session featured speakers and moderators from a diverse range of APEC economies and institutions, fostering a rich and varied exchange of perspectives. Interactive activities were intentionally integrated to maximize participant engagement and promote collaborative learning.

Key Achievements and Outcomes

The GRP18 achieved significant outcomes by fostering knowledge exchange and promoting collaborative efforts:

- **Increased Knowledge:** Participants gained substantial knowledge on how digital technologies can be integrated into regulatory policy design and implementation, with a target of 75% reporting a substantial increase in knowledge.
- **Deepened Understanding:** Attendees developed a deeper understanding of various governance models for establishing digital regulatory frameworks, aiming for 75% reporting a substantial increase in understanding.
- **Enhanced Interest in Cooperation:** The conference stimulated increased interest among economies for technical cooperation in applying GRP principles to digital technologies, with a target of 75% reporting increased interest.
- **Best Practice Sharing:** The event facilitated the sharing of numerous best practices and insights on regulatory modernization and the application of digital tools from various APEC economies.
- **Framework for Future Action:** The discussions laid the groundwork for future initiatives to address regulatory disparities and promote harmonized approaches to digital technologies across the APEC region.

Post-Conference Survey Results

Following the conclusion of GRP18, a post-conference survey was conducted to evaluate the project's overall success and verify the achievement of the Key Performance Indicator (KPI). The KPI required at least 75% of participants to report enhanced knowledge, deepened understanding, and increased interest in cooperation.

A total of 8 respondents participated in the survey, and all respondents (100%) confirmed that these objectives were fully achieved, thereby surpassing the KPI target. Respondents further highlighted concrete knowledge improvements in areas such as Regulatory Impact Assessment (RIA), regulatory sandboxes for Artificial Intelligence (AI), and strategies for integrating sustainability into regulatory development. They also emphasized plans to utilize the knowledge gained in policy implementation at domestic level, including proposals for AI governance, GRP guideline updates, and sector-specific regulatory reforms.

The project offers significant benefits to the APEC region by:

- **Fostering Innovation and Competition:** Enabling policymakers and regulators to design approaches that encourage innovation and competition in the digital economy.
- **Promoting Trade and Economic Development:** Addressing regulatory gaps and inconsistencies that can hinder the adoption of new technologies and cross-border trade.

- **Strengthening Institutional Capacity:** Enhancing the capacity of government officials, particularly in developing economies, to apply GRP principles effectively using digital tools.
- **Improving Regulatory Readiness:** Equipping member economies with the knowledge and strategies for digital-era regulation, focusing on AI governance and responsible AI principles.
- **Facilitating Network Building:** Creating a platform for experts and member economies to build networks, share best practices, and collaborate on ongoing APEC capacity-building efforts.

Challenges Ahead and Lessons Learned

Based on the conference discussions and the overarching objectives, several challenges and lessons emerged:

- **Rapid Technological Evolution:** The pace of technological change necessitates continuous adaptation of regulatory frameworks.
- **Regulatory Harmonization:** Achieving coherence in regulating new technologies across diverse APEC economies remains a significant challenge.
- **Capacity Gaps:** Developing economies often face challenges in building institutional and technical capacities for digital-era regulation.
- **Stakeholder Engagement:** Ensuring inclusive and effective engagement of all stakeholders (public, private, academia) in regulatory development processes is crucial.
- **Data Protection and Cybersecurity:** Balancing innovation with robust data protection and cybersecurity measures is a key ongoing challenge.

Key lessons learned highlighted the importance of a proactive and collaborative approach to regulatory policy. APEC economies must prioritize flexible and adaptive regulatory frameworks, invest in continuous capacity building, and foster international cooperation to effectively manage the implications of emerging technologies for trade and economic growth.

Recommendations for Future Actions

To sustain and build upon the momentum generated by GRP18, the following recommendations are proposed:

- **Continue Capacity Building:** Develop and implement targeted training programs and workshops focused on specific digital technologies (e.g., AI ethics, blockchain regulation, data governance).
- **Promote Regulatory Sandboxes and Pilot Projects:** Encourage economies to establish regulatory sandboxes and pilot projects for testing new regulatory approaches to emerging technologies.
- **Develop Best Practice Guidelines:** Facilitate the creation of APEC-wide best practice guidelines for regulating AI, cybersecurity, and cross-border data flows.
- **Strengthen International Regulatory Cooperation:** Intensify efforts for dialogue and cooperation among APEC member economies and with international organizations to promote regulatory coherence and mutual recognition.
- **Integrate Digital Tools in Regulatory Processes:** Encourage the adoption of digital tools (e.g., AI-powered impact assessments, online public consultation platforms) within national regulatory agencies.
- **Research and Analysis:** Support ongoing research on the economic impact of digital-era regulation and the development of robust metrics for evaluating regulatory quality.