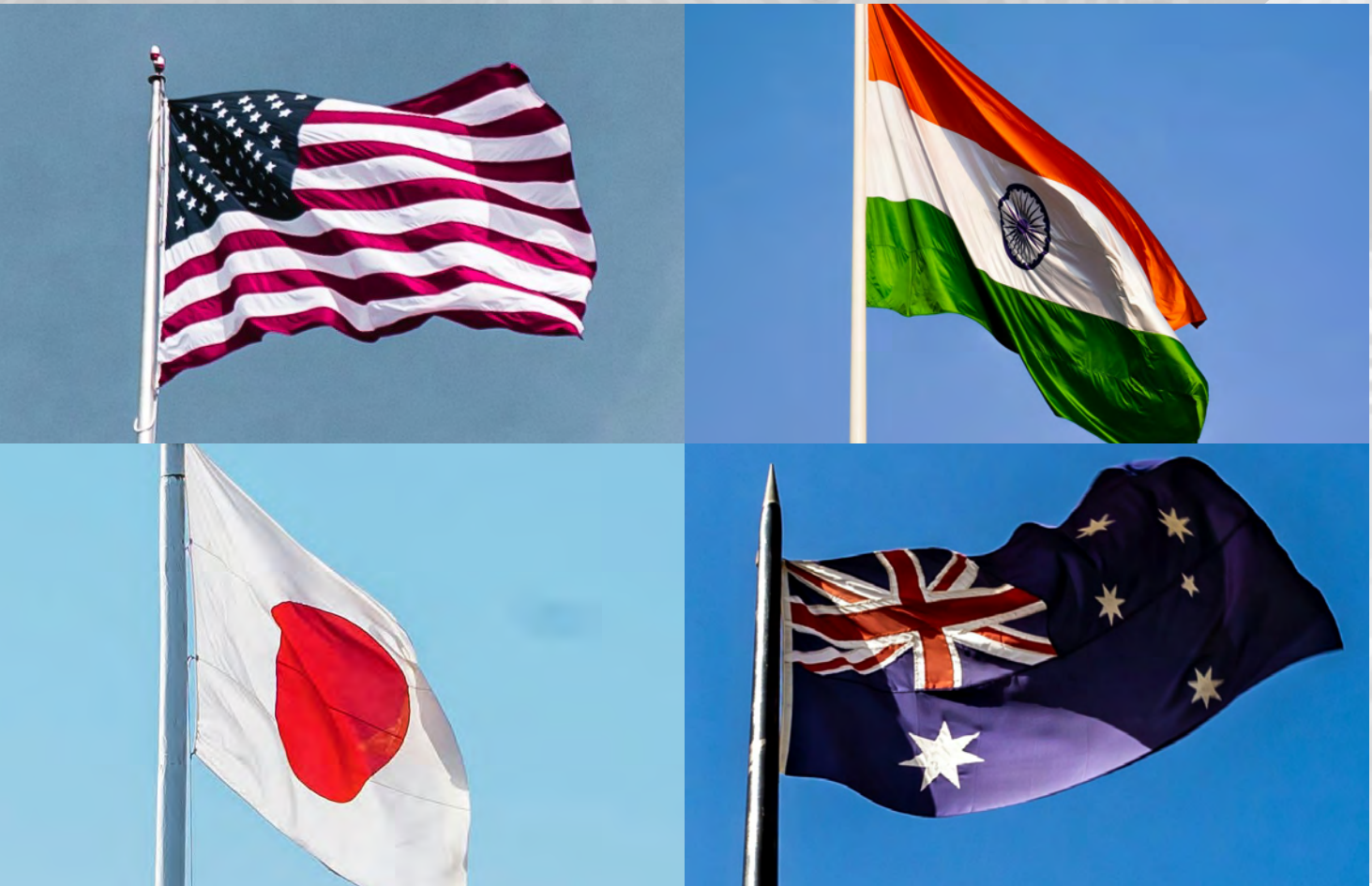# 2ND San Diego Process:
The Quad Critical & Emerging Technology Forum

Executive Summary Report
19–21 August 2024

Partners: National Security College of the Australian National University (ANU), the Observer Research Foundation of India (ORF), the Daniel K. Inouye Asia Pacific Center for Security Studies (DKI APCSS), the Near East South Asia (NESA) Center for Strategic Studies, and the Research Center for Advanced Science and Technology (RCAST) at the University of Tokyo. This iteration of the event took place in consultation with the Quad Investors Network (QUIN).

2ⁿᵈ San Diego Process:
The Quad Critical and Emerging Technology Forum

Report/Executive Summary
August 2024

EXECUTIVE SUMMARY:

From 19–21 August 2024, the University of Tokyo hosted the second "San Diego Process" (SDP) with representatives of the Quad states for a discussion of critical and emerging technologies. Partners in the effort include the National Security College of the Australian National University (ANU), the Observer Research Foundation of India (ORF), the Daniel K. Inouye Asia Pacific Center for Security Studies (DKI APCSS), the Near East South Asia (NESA) Center for Strategic Studies, and the Research Center for Advanced Science and Technology (RCAST) at the University of Tokyo. This iteration of the event took place in consultation with the Quad Investors Network (QUIN).

The event featured forty-six participants representing both the public and private sectors of the Quad states. The participants hailed from academic institutions, venture capitalist firms, research laboratories, think tanks, legal firms, technological firms, and government agencies/ministries responsible for foreign affairs, national security, technology policy, and economic affairs. Discussions were broken into three distinct channels relevant to Critical and Emerging Technology (CET).

- The first centered on how to enhance intra-Quad technological cooperation.
- The second focused on how the Quad can engage more effectively with the wider Indo-Pacific in the technological realm.
- The final spent its energy working towards ways the to enhance the Quad's collaborative security approach to domain awareness.

Key takeaways and policy recommendations pertaining to the Quad and CET follow below. The event had a particular focus on Artificial Intelligence and Machine Learning (AI/ML), Commercial Opportunities in Space, Digital Infrastructure and Development, International Standards for Digital Tools and Emerging Technology, Mis/Disinformation, Strategic Communications regarding CET, and Domain Awareness efforts.

- The next iteration of the SDP will take place on the campus of the effort's newest institutional partner, **Stanford University, from 16–18 June 2025.**

THEMES:

The following themes were core areas of discussion and debate among delegates during the event.

- Information/Branding/Communication:

  o The existence of the Quad Track 1 working groups is not widely known, nor are the dimensions of the policy discussions taking place within them. This was continuously discussed both in breakout groups and in plenary sessions by delegates. Those more familiar with the working groups acknowledged that the groups are tied to larger national processes by each Quad state and are meant primarily for inter-government coordination, but such coordination must have a public policy dimension besides Joint Statements. Government coordination amongst the Quad cannot remain shrouded or risk greater misinformation spreading about the effectiveness of the Quad increases.

  o The Quad is an ad hoc partnership built around common interests among the four Indo-Pacific democratic states. Yet, delegates debated whether more formality in the processes of the Quad were needed to delineate the Quad from other forms of engagement amongst the four member states. Such formality could range from regular Quad "updates" that exist independent of Joint Statements to the establishment of formal staffing by the Quad states inside offices that solely work on Quad coordination. An alternative to formality would be to develop a common "guidebook" regarding public-private partnerships (PPP) to better assist the private sector actors who could engage within the Quad and to more accurately track the maturation of efforts for the larger Indo-Pacific region.

  o Strategic communication regarding the Quad and its efforts on CET was commonly debated. The re-emergence of the Quad in 2017 was met with suspicion throughout the Indo-Pacific as it was interpreted as a mechanism for four states to deter China's geopolitical ambitions. Time has proven to ease such concerns, despite continuous disinformation pushed by various actors (including China). Yet, the region remains skeptical of the Quad's utility. The Quad is organized around delivering greater prosperity and cohesion in the Indo-Pacific, but today's skepticism centers on the Quad's efficacy at delivering results for the region.

- CET Progress and Missteps:

  o Delegates routinely emphasized the effectiveness of the Quad Fellowships for building a community tied to the Quad, detailing the public good of the Quad that is inherently not geopolitical in nature, facilitating greater research and cooperation in CET, and being developed from initial concept to an institution that will serve the larger Indo-Pacific. Discussions as to how to further expand the Quad Fellowship beyond STEM and to further expand the long-term connectivity of fellows took place over the three days.

  o A lack of specificity is undermining the Quad agenda, especially in CET. Specific areas of investment within the subsections of the CET agenda were debated by delegates. Instead of emphasizing a long list of critical and emerging technological areas that strain bureaucracies and provide little detail to potential private sector partners, the Quad should instead start to narrow down its focus into areas that are prioritized. The larger CET agenda can remain more expansive, but the prioritization of effort is essential. The key areas that were discussed by delegates included:
    - Refining efforts in AI/ML towards ethical and development standards, Digital Public Infrastructure, and key connectivity with certain economic sectors, such as agriculture
    - Defining in greater detail how the Quad states can complement each other and set an international standard for Quantum Computing.
    - Provide clarity on what aspects tied to the commercial space market are of key value to the Quad member states and facilitating private sector maturation in those aspects of the market.
    - Specifically, define the near and long-term elements of the technological supply chain that must be further diversified or reinforced to assist private sector investment.

- Bureaucratic Opportunities and Limits:

  o Echoing communicative challenges detailed above, delegates from both the public sector and private industry/academia discussed how the Quad states bureaucratic processes often do not facilitate CET collaboration. Bureaucratic seams make coordination slow or inefficient, and silos routinely disrupt attempts at greater coordination. Despite senior executives of each Quad state highlighting the importance of the Quad, the necessary flexibility to facilitate PPP remains slow. Examples pointed to by delegates included the lack of progress with the IPMDA and the lack of progress in telecommunications coordination across the Indo-Pacific (the only success story being the Open RAN announcement in Palau).

  o The strategic aims of the Quad present a perception that the Quad can handle its ambitious agenda comprehensively. This is not possible, as intra-Quad coordination in and of itself is a complex task, let alone partnering with regional states in the Indo-Pacific that have wide-ranging priorities and capabilities when it comes to CEP.

Delegates pointed again at the necessity of greater specificity and/or prioritization of Quad efforts, with precise challenges/questions posed to the private sector to help fix targets by which resources, research, and organization can rally around. Examples discussed that serve as models for the Quad include the case of AI ethics discussions and debates. Such conversations have a government-only format but also happen commonly among private sector institutions. Quad states could collectively challenge private sector firms and academic institutions both within the Quad and among the wider Indo-Pacific to collectively build forums for AI ethics and standards coordination.

o   QUIN is not having the impact hoped for in rallying investments and directing advancement for CET inside the Quad. Delegates pointed out that QUIN remains loosely affiliated internally and does not possess seed money that could help spur greater private sector coordination by the states themselves. Directing resourcing into QUIN by the Quad states was discussed by delegates as an obvious action to take.

- Domain Awareness/Security Issues:

o   Delegates from each Quad state made a common point that the Quad seems to be overcorrecting away from the appearance of a security grouping. Security issues, whether in a traditional or nontraditional sense, exist at the heart of the Quad's efforts and to avoid that declaration was seen as counterproductive. Delegates were clear that the Quad should not be a military partnership, but to avoid discussing concerns about China, transnational criminal organizations, or overt challenges to democratic governance by competitors was commonly agreed as essential.

o   The Quad is positioned to do more in the domain of space. Delegates emphasized how it can do so without undermining each state's respective national security interests and providing an updated set of rules that could be the basis for stronger governance beyond our atmosphere.

o   When it comes to various forms of terrestrial and maritime domain awareness, the traditional understanding by governments of concepts associated with "awareness" has become out of date. The commercialization of the data that constitutes awareness of a domain is now available to the wider public and easily enhanced using machine learning tools. In short, the "toothpaste is out the tube" when it comes to many aspects of domain awareness.

RECOMMENDATIONS:

Below are the specific policy recommendations that were offered by the delegates at the event.

- The Quad should jointly finance a comprehensive survey regarding the Quad's efforts throughout the Indo-Pacific. This survey, informed by previous efforts, should be aligned

to inquire along the various working group themes to gauge regional perceptions and regional needs.[1]

- <u>Make the Quad a brand</u>. Develop a logo for it and jointly develop and finance a website that highlights the efforts being undertaken and details the aims of the Quad group. Offer the design of the logo and the website a public contest that further creates publicity for the Quad and its work.

- <u>Engage with college/university students through challenges that offer varying prizes</u>. These challenges could be based on finding new ways of institutionalizing joint research or drawing attention to Quad efforts. The "prizes" could vary between cash awards, money for start-ups, or face to face meetings with senior government officials to brief the idea.

- The Quad <u>working groups must have a public-facing element</u> that comments on the discussions taking place. Awaiting joint statements by Foreign Ministers or the Quad Leaders only allows for the void of communication to be filled in by other narratives. Countering misinformation and taking control of the Quad's reputation can only be done if data about the Quad is being released. This is particularly relevant to the Critical and Emerging Technologies Working Group, Cybersecurity Working Group, and Maritime Security Working Group.

- In the near-term, the Quad should <u>focus on AI patents for non-generative AI</u>. The generative AI space is already crowded but there are opportunities in the non-generative field, particularly with the Quad governments providing facilitation.

- Quad states should quicken the pacing of their discussions regarding the <u>free flow of STEM talent within the Quad states</u> (and possibly other regional democracies who align with Quad standards and norms). This flow of talent could include a relaxation of visa requirements for entry into each respective Quad state or fewer regulatory requirements for joint research projects on CET elements across the Quad.

- <u>Facilitate the expansion of the Quad Fellowship</u> beyond its current trajectory given the reputation dividend it provides. While it is expanding to non-Quad regional states, there is ample logic for further refining the fellowship aims, provide funding for conferences/gathering of current and past fellows, and include additional training/education for fellows. Such training should include overviews of how their research efforts in STEM fields impact geopolitical circumstances, something the wider scientific community may understand to some degree, but not the depth of the competitive nature of how states compete.

- <u>Leapfrog off the establishment of the Quad Center of Excellence in Quantum Information Sciences to create other centers of excellence</u>. These could be virtual or physical in

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[1] https://www.aspi.org.au/report/southeast-asian-perceptions-quadrilateral-security-dialogue and https://www.iseas.edu.sg/centres/asean-studies-centre/state-of-southeast-asia-survey/the-state-of-southeast-asia-2024-survey-report/

nature, but most have a mandate from the Quad states and seed money from each respective government. Such centers could serve as connective tissue among national laboratories, academic institutions, and private sector firms to create a greater community while furthering progress.

- Attach various Quad efforts in pinpointed ways to various subregions in the Indo-Pacific. Combine aspects of CET efforts and climate efforts for outreach to the Pacific Island states or emphasize CET, supply chains, and finance for ASEAN. Show how technological investments and progress within the Quad provides real world solutions to the Global South.

- The Quad should jointly determine its approach to AI regulation and declare its decision. It does not matter if it concurs with the EU's risk classification, develops its own, or declines to declare and defaults to a state-by-state determination. Decide and declare it.

- The development of "trusted user" status within AI could be modelled off the financial sector and its classification of risk to create a Quad "rules of the road" agenda for maintaining security and ethics regarding AI. Such a model would provide greater clarity without impeding national agendas, help further establish international standards, and facilitate greater public understanding.

- Invest in and prioritize Digital Public Infrastructure. Modelled on India's system, the Quad could promote such tools throughout the Indo-Pacific and Global South and help facilitate global development in that regard. It would also promote a segment of the CET agenda that India would lead.

- The Quad should stand up a strategic communications cell. This cell would merge the individual Quad member state efforts at countering mis/disinformation and work with private sector actors to improve efforts and providing accurate information to the Indo-Pacific.

- Create and publicly release a Quad Domain Awareness Impact Report. Constituted of open-source information and then compiled across the Quad states, this annual report would be made available to detail the types of data from free-to-use or commercial actors that can reveal the issues facing the Indo-Pacific. It would emphasize the maritime domain but could include the air domain and space domain data given the expansion of the commercial actors involved. It would also serve as a regional teaching kit for various ways to approach domain awareness.

- The Quad, through the IPMDA, should routinely release data drops highlighting security challenges upon the waters of the Indo-Pacific. These would be coordinated and cleared by each state before being released. Consider this effort a "highlight reel" of the challenges collectively faced.

- Acknowledge more overtly in joint statements that the Quad does have a role to play in regional security. Emphasize law enforcement efforts, Humanitarian Assistance/Disaster Relief (HA/DR), climate responses, and Search and Rescue (SAR). The Quad has overcorrected on security to emphasize that it is not a military partnership.

- The Quad states should support a domain awareness cohort that operates Track 1.5 efforts within the Quad and in partnership with the wider Indo-Pacific. This cohort would help to provide engagement opportunities, develop joint research, communicate trends, and serve as a public tool for information sharing.

- The Quad should work collectively on developing a means, through its foreign affairs department/ministries, to communicate when violations of maritime security and international law occur. This can be done privately via government-government communications, but in the case of egregious violations and continued unanswered outreach, the Quad should publicly declare such violations.

- Maritime security efforts by the Quad should lead towards an open-source database that serves as an information resource for the Indo-Pacific. It would be financed to provide free-to-use data tools, such as AIS monitoring mapping, link to global efforts on MARSEC, and could serve as a way for public engagement by the Maritime Security Working Group. This site should be mobile accessible, and eventually mature to include an option for crowd sourcing.

- The Defense Innovation Unit from the U.S., in cooperation with its equivalents ASCA, ATLA, and IDEX, should offer a public contest to create a public interface for compiling domain awareness information. This interface would be a resource for joint research, detailing security challenges, and explaining the scale of data publicly available regarding various domains.

- The Quad should initiate conversations focused on the space domain. This group would not only discuss ways to facilitate private sector interests in space, but deconflict their own national agendas and begin the work of developing updated rules/norms for space that reflect the current situation.

- The Quad states should develop a regional-focused communicative effort and an internal plan of action detailing how the Quad can be a sustainable, institutionalized element of the larger Indo-Pacific regional security architecture.

WORKSHOP RECORD:
The Chatham House rule of non-attribution covers all aspects of the Track 1.5 Workshop.

Day One, 19 August 2024

0900–0915	**Welcome Remarks**
0915–0935	**Opening Address**
0935–0940	**Opening Commentary**

0940–1115   **1st Session: Progress within the Quad**
Questions:
- What are the main priorities for Quad critical and emerging technology cooperation?
- What progress on technological cooperation has occurred since the last SDP?
- What primary hurdles remain for greater cooperation?
- What are the larger requests by the Indo-Pacific region for the Quad?
- What is the state of cooperation related to technological standards amongst the Quad partners?

This panel serves as both a mechanism to review the prior gathering in San Diego and to provide updates on the status of Quad cooperation in the technological sector. Moderated by our Japanese hosts, this panel will feature speakers who can address the state of Quad efforts from a government perspective.

1115–1130   Coffee/Tea Break

1130–1300   **2nd Session: Means to Assist/Advance Regional Technological Needs**
Questions:
- How can the Quad states better partner internally and with regional states through the provision of infrastructure, financing, or joint research/ventures?
- How can progress, especially in the financial sector, be achieved in a substantive and nimble manner?
- What development targets for the region must the Quad focus on or direct energy towards?

This panel, chaired by the Australian delegation, will dive deeper into specific aspects of intra-Quad technological cooperation, including cybersecurity, commercial space technology, and artificial intelligence. The panel will also include how regional needs in these sectors can facilitate Quad efforts throughout the Indo-Pacific.

1300–1430   Lunch

1430–1600 **Theme Breakouts**
The larger plenary will be broken down for three separate breakout groups designed around conversations on the following themes:
- Group 1: Policy Advancements/Recommendations/ within Quad Technological Cooperation
- Group 2: Advancing Indo-Pacific Technology-related Infrastructure, Partnerships, and Narratives/Communications
- Group 3: Recommendations for Quad-facilitated Domain Awareness Advancements

Day Two, 20 August 2024

0910–1040 **3rd Session: Opportunities to Progress Domain Awareness**
Questions:
- How is the Quad faring with commercial technology adoption for regional security concerns, such as those related to the IPMDA?
- How can Quad states make progress in furthering information sharing and regional adoption of new technological tools for domain awareness?

Chaired by the U.S. delegation, this panel will be constituted of experts from each of the Quad states who can assess the current pace of domain awareness efforts, what gaps remain, and how the specific attributes of each Quad state can be merged.

1040–1100 Coffee/Tea Break

1100–1230 **4th Session: Private Sector Requirements, Funding Mechanisms, and Market Access**
Questions:
- What gaps remain between public sector policy and private sector aims?
- How can the cross-Quad cooperation in the private sector be deepened?
- What are the ways to mature the scale of public-private partnerships?

Chaired by the Indian delegation, this panel dives into how each Quad state can deepen public-private partnerships and how such partnerships can be expanded throughout the Quad.

1230–1400 Lunch

1400–1530 **Theme Breakouts**
The larger plenary will be broken down for three separate breakout groups designed around conversations on the following themes:
- Group 1: Policy Advancements/Recommendations/ within Quad Technological Cooperation

- Group 2: Advancing Indo-Pacific Technology-related Infrastructure, Partnerships, and Narratives/Communications
- Group 3: Recommendations for Quad-facilitated Domain Awareness Advancements

Day Three, 21 August 2024

0910–1040 **5th Session: Communication/Narratives and the Quad**
Questions:
- What is the state of the narrative regarding the Quad throughout the region?
- What is the impact of disinformation/misinformation on regional cooperation in technology?
- How can the Quad narrative be enhanced?

Our final formal panel will be chaired by our hosts in the Japanese delegation and will examine ways for the communication complexities surrounding technology and the Quad itself can be navigated and improved.

1040–1100 Coffee/Tea Break

1100–1145 **Theme Breakouts**
The larger plenary will be broken down for three separate breakout groups designed around conversations on the following themes:
- Group 1: Policy Advancements/Recommendations/ within Quad Technological Cooperation
- Group 2: Advancing Indo-Pacific Technology-related Infrastructure, Partnerships, and Narratives/Communications
- Group 3: Recommendations for Quad-facilitated Domain Awareness Advancements

1145–1245 **Final Session – Presentation of Recommendation, Next Steps, and Final Comments from Partnering Institutions**
Speakers from *RCAST, ORF, ANU, NESA, and DKI APCSS*

1245–1340 **Event Concludes and Farewell Lunch**

1430–1600 **Public Forum: "Critical and Emerging Technology Cooperation in the Quad: Current Status and Future Prospects"**
Speakers:
- *Prof. Daisuke Kawai, Project Assistant Professor; Deputy Director of the Economic Security Research Program, RCAST, University of Tokyo*
- *Prof. Jeff Payne, Assistant Professor. Near East South Asia Center for Strategic Studies, United States Department of Defense (moderator)*
- *Dr. Virginia B. Watson, Professor, Daniel K. Inouye Asia-Pacific Center for Security Studies, United States Department of Defense*

- *Ms. Jennifer Jackett, Sir Roland Wilson Scholar; Former Senior Advisor to the Cabinet and Prime Minister's Office, National Security College, Australian National University*
- *Mr. Anirban Sarma, Deputy Director of ORF Kolkata, Observer Research Foundation*

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