Strengthening Global Strategic Trade Controls through Focused Stakeholder Ecosystem Assessment, Engagement, and Capacity Capture

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Abstract

The current atmosphere of accelerated technological innovation and unregulated access to that technology is unfolding amid the backdrop of active global wars, regional conflicts, and high stakes natural resource and economic competition. The convergence of these dynamics may open the door to increased deliberate or incidental misuse of sensitive controlled information and materials. Such a risk threatens to compound the aforementioned conditions at a time when the international community faces increasing and competing priorities and a finite supply of human and financial resources with which to address these issues. This article explores the role of Strategic Trade Control (STC) as a powerful tool for addressing many of the threats and security risks facing humanity today. It offers three key areas for consideration: 1) the

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unique potential of STC to positively impact today's global security climate, 2) the utility behind a smartly connected and understood STC stakeholder ecosystem, and 3) the criticality of operationalizing and sustaining, or "capturing" STC capacity development outcomes. Recommendations are given for how to pursue and achieve success in each of these areas as a means to improve STC compliance and by extension, global security. Contextualizing the impact of STC on global security, defining the STC stakeholder ecosystem, and applying a simple but effective capacity development framework known as "Capacity Capture" offers the opportunity to build a more representative STC ecosystem rapidly and effectively while improving coordination and competencies at a time when they are most urgently needed.

Keywords

Global security, stakeholder ecosystems, operationalizing capacity, strategic trade control

Key Terminology

- **Stakeholder:** any individual or group of individuals (public or private) impacted by or having an interest, stake, role, or responsibility in some shared issue, goal, or initiative.
- **Ecosystem:** the body of stakeholders working on a defined issue, goal, or initiative and the conditions, dynamics, and bureaucracies that characterize their connectedness and interactions.
- **Ecosystem Mapping and Assessment (EMA):** the diagraming and linking of all stakeholders within a specified ecosystem and analysis of inter/intra relationships, mission areas, behaviors, and other conditions or dynamics that elicit actionable data about the ecosystem.
- **Capacity Development:** any activity, engagement, or interaction designed to raise awareness, build, or evolve professional cultures or norms, and/or expand or enhance specified competencies or capabilities.
- **Capacity Capture:** the operationalization of capacity development outcomes, initiatives, action plans, and policy frameworks to advance, enhance, and sustain ecosystem performance and effectiveness.

I. The Role of Strategic Trade Controls in Global Security

STC plays a pivotal role in contemporary global security. The world continues to live at the crossroads of increasing interconnectedness and diffusion of new technologies that offer extraordinary peaceful use applications that may also be exploited for non-peaceful purposes. To stay ahead of and effectively plan for response to the myriad evolving global security trends and threats, those in the STC and nonproliferation communities will need to reconsider and adapt mental models, policy prescriptions, practices, and coordination competencies wherever possible. The proliferation of Weapons of Mass Destruction (WMD) and conventional arms demands rigorous STC regulations to be uniformly understood and applied to prevent misuse. A globalized supply chain necessitates a comprehensive STC framework to mitigate the risks associated with controlled goods and technology from falling into the wrong hands.

With that in mind, some dynamics that demonstrate how and where STC is impacted by or plays a role in global security include:

- New technologies: The rapid onset of emerging dual-use technologies, such as artificial intelligence (AI) or those associated with hypersonic weapons, as two examples, poses new challenges to existing STC implementation and compliance and may necessitate augmentation of, if not entirely new, regulatory frameworks.[2,3] AI and hypersonic technology particularly have both civilian and military applications that make it difficult to distinguish between legitimate and illegitimate transfers. These new or emerging technologies challenge STC regimes because of 1) rapid onset (use outpaces policies controlling use), 2) low barrier to access (meaning many people or certain stakeholders have easy access to the technology), and 3) difficult-to-predict or myriad known ways in which the tech can be nefariously used.

- Nation state monopolies on critical natural resources: the current race to protect rare earth elements and supply chains of critical technology like semiconductors may increase risk if undertaken too hastily and without the appropriate STCs in place.

- An increasingly interconnected global economy: The growing interconnectedness and complexity of the global economy, both in the virtual (for example, dark web transactions) and physical (for example, ungoverned spaces, easy to replicate manifests) sense, makes it increasingly difficult to track and control the flow of goods and technologies.

- Non-state and state actor activities: The nefarious behavior of state and non-state actors and national competitive instincts or corruption continues to challenge STC compliance; the former being less susceptible to traditional diplomatic and economic pressures, and the latter being difficult for many countries to change on the systemic level despite best intentions or efforts.

- Global conflicts: Ongoing war and escalating armed conflict create "fog of war" conditions for those who wish to exploit or profit off such human tragedy. These conflict conditions provide cover for traffickers and opportunities to pilfer dual-use assets.

- Outmoded international relations mindset: Adherence to "great power competition" or "zero sum" security mentality and strategies inhibits creativity of thought and finding new solutions to existing problems or contemporary challenges. To improve outcomes, mental models that govern and inform subsequent policy and action must also change, which leaves room for improved stakeholder representation, connectivity, and cooperation on STC and other issues.

To confront and address the above and mitigate the challenges posed by the proliferation of

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2 "Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence," The White House, October 30, 2023, <https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/>.

3 "Urging an International AI Treaty: An Open Letter," AI Treaty, <https://aitreaty.org/>.

sensitive goods and technologies, effective stakeholder cooperation is essential. International agreements and regimes that support robust STC efforts provide frameworks for countries to work together to prevent the illicit use, trade, movement, or proliferation of controlled items. However, in nearly all cases, there is scope to improve cooperative efforts and compliance outcomes.

Here are other areas where cooperation in STC can be enhanced:

Harmonizing Standards

Global STC leaders are working to develop export control standards for critical and emerging technologies, but reaction times must be quicker and more decisive while remaining well-thought out and sustainable. STC stakeholders should consider drafting a playbook for systematically preempting or identifying, deliberating on, and drafting new or evolved standards for breakout technology or other dual-use information or materials. Doing so would result in a confident, deliberative, and responsive approach and more consistently reliable STC adoption and compliance outcomes.

Information Sharing

Countries need to share information or intelligence more regularly and effectively to support robust STC enforcement. Doing so has the dual benefit of strengthening national STC compliance while simultaneously improving national and regional border security. Countries may consider sharing information about:

- Illegal trafficking, terrorist, or proliferation networks and any known or suspected activities.

- Shippers, end users, freight forwarders, transportation companies, or other stakeholders involved in the movement of goods across borders.

- Commodity control and other specialized verification, user, or "parties" lists to harmonize lists and thereby prevent incidental or accidental loopholes.

- Commodity licensing updates, requirements, or known or suspected licensing breaches so that bordering countries have an opportunity to adopt the same import/export best practices or standards.

- Customs and border operations procedures and protocols to synchronize cross-border operations aimed at increasing faster and more accurate identification of attempted illicit movements, mitigating diversion attempts, hastening processing times and queue lines to keep licit trade and transfer or people moving as quickly as possible.

In countries and regions where active conflict, known or sustained non-state criminal or terrorist activity, historically fluid or difficult to police green borders, economic hardship, and/or natural resource, or climate-induced challenges are combined with even modest access to dual-use or precursor materials and technical "know-how," risk and vulnerability is created for citizens of

those nations, regions, and indeed the world. Coalescing and focusing stakeholder attention to strategic communication and information sharing is a potent and appropriate tool to mitigate the risks posed by poorly or inconsistently enforced STCs.

Capacity-Building

Most countries would benefit from collaborative and made-for-their-ecosystem approaches to develop, implement, and manage effective STC regimes. STC ecosystems are essentially living, continually evolving, communities of stakeholders with some specific contribution to or responsibility for pursuit or application of robust STC regimes or are somehow impacted by or are expected to adhere to those regimes. At the national level, public entities such as customs, national security or defense agencies, law enforcement, intelligence, and regulatory authorities as well as private sector entities such as professional associations, nongovernmental organizations, universities, and businesses and companies dealing in import or export of dual-use materials or information are all unique stakeholders within this dynamic STC ecosystem.

Beyond the national scope, international partners (other governments or nongovernmental entities), multilateral organizations, and regional centers or coordinating bodies must also be considered part of these national ecosystems as frequently it is the international entities, such as the World Customs Organization (WCO), specialized United Nations (UN) program offices, NATO, EU CBRN Centers of Excellence, EU Partner to Partner (P2P), and/or U.S. government agencies like the Department of State are often sponsors of STC capacity development programs or initiatives. These capacity efforts can result in sustained engagement of similarly interested global practitioners and often seek to advance specific STC related knowledge, competencies, and harmonization among and between global partners.

To ensure capacity development activities, goals, and implementation strategies are appropriate to different national STC ecosystems, and will yield optimal outcomes, it is essential that non-national stakeholders develop an authentic and ongoing understanding of these ecosystems. It is not enough to read a national government or bureaucracy organizational chart or memorize a country's various STC related national policy frameworks. It is neither sufficient to assume stakeholders know certain information nor helpful to approach stakeholders without doing homework on their ecosystem up front. And it is essential to lead an interaction acknowledging an awareness that this may be the nth time they have communicated to some well-intended external entity the same pain points, gaps, priorities, and other self-assessments of their national STC "health." This establishes immediate parity, candor, and demonstrates a level of awareness and commitment that will yield more nuanced feedback while creating a safe space for partners to ask questions they may be otherwise hesitant to ask to avoid appearing uneducated on certain topics or terminology.

This will generate more precise stakeholder feedback about what is or is not viable or relevant to their needs, priorities, and interests. This in turn would increase the likelihood that whatever capacity development offerings result, have a higher chance of being successfully absorbed, operationalized, and sustained post-engagement. And when new or evolved knowledge, practices, skills, or tools are absorbed, operationalized, and sustained, global security is strengthened.

Leveraging Local, Regional, and Global Expertise and Resources

The global STC ecosystem is vast and diverse, which makes it a challenge to achieve cohesion and integration. Government and multilateral organization stakeholders have an opportunity to build public-private partnerships, leverage academic, professional association, and civil society organization expertise and resources to build depth of knowledge, design and deliver effective messaging/socialize campaigns for different stakeholder groups, and gain traction on meeting national STC compliance goals. For example, not every country faces the same government-industry relationship dynamics or motivating behaviors surrounding regulatory regimes. In 2015, the U.S. Department of State supported a meeting that brought Iraqi industry together with their government regulatory authorities expecting to have to convince the industry partners to be cooperative about chemical regulations. In fact, the nascent Iraqi private chemical sector was eager to work with government to adopt regulations. Doing so would enable them to prove compliance thereby preventing their chemical inventories from being seized by law enforcement entities who were not always clear on which chemicals were licit and licensed and those that were illicit or unlicensed. This is just one example of cultural or societal dynamics characterizing or influencing national public-private relationships. Additional factors impacting a state's STC health include economic systems, bureaucracy structures, threat or security conditions, and geopolitical realities. Meeting STC goals can best be achieved when a contextualized, whole-of-ecosystem understanding of STC stakeholders and relationships is applied.

Law Enforcement Cooperation

Countries need to find ways to work together to investigate and prosecute violations of STC regulations. This could involve development of joint cross-border investigation protocols, harmonization of key terms and references, brokering of evidence sharing agreements, and reaching an understanding on the terms surrounding extradition of individuals suspected of violating STC regulations. For example, some countries in Southeast Asia have different data protection laws that may prohibit or restrict the types or extent of information that can be shared with other countries about suspected or alleged traffickers.[4] Specifically, Laos and Thailand have legal limitations on sharing information on local nationals with other countries. These limitations can impose roadblocks on what information can be shared on persons of interest that may be trafficking illicit materials across borders or the utilization of a be on the lookout (BOLO) warning for other law enforcement agencies and the public. Deconflicting such laws or finding solutions to compliantly cooperate with regional or international illicit trafficking investigations in such circumstances, is essential.

4 Shawn Baker-Garcia, Bangkok, Thailand, U.S. Department of State sponsored, Coalescion implemented, Golden Triangle River Vessel Weapons of Mass Destruction Interdiction Initiative, September 4-8, 2023.

II. The STC Stakeholder Ecosystem[5]

To function optimally and achieve shared goals in a timely manner, it is necessary for countries and global STC leaders to map and understand the stakeholders within the broader global and national level STC ecosystems. These "living" ecosystems mapped would show a complex web of stakeholders, their interactions with each other, and the systems or dynamics that drive stakeholder behaviors, interests, and priorities. Within the STC ecosystem, stakeholders consist of key individual practitioners (experts or leaders), government agencies, private sector entities, multilateral organizations, and nongovernmental organizations including academia and civil society. These stakeholder groups may be influenced or impacted by or in a position to contribute to or further national STC framework development and compliance efforts, each bringing a distinct role, perspective, audience, or capability. As such, it is essential to develop an engagement strategy that works to build a distinct STC ecosystem identify comprised of all the relevant and interested stakeholders. One way to do this is to coalesce stakeholders at specified intervals with a clear purpose and outcome in mind. That could be to develop a shared understanding of each other and each's unique role or responsibility within the STC ecosystem. With improved understanding of each other, it is more likely that meaningful friendships, partnerships, and collaborative efforts will ensue. It will also ensure that when they disperse back to their respective home institutions, their "individual" efforts have a better chance at being harmonized, integrated, and efficiently designed to support broader, shared STC goals. Understanding and harnessing the power of an STC ecosystem facilitates inclusion of impacted voices and expertise which improves subsequent stakeholder planning, actions, and buy-in; all of which are pivotal to raising STC awareness, improving STC compliance, and identifying and addressing STC-related capacity development needs.

Each of the above-identified stakeholder groups have a unique role and perspective to contribute to the STC ecosystem. For example, government agencies have the authority to develop and enforce STC regulations, while individual practitioners have the expertise to inform, advise on, or implement regulations. Civil society organizations can provide a valuable outside perspective and niche legal or other expertise in the development or deployment of STC related national policies, frameworks, or compliance planning and can help ensure STC policies are grounded, fair, and transparent. The private sector can provide insights into the practical challenges of implementing STC regulations and help to develop solutions that are both effective and efficient. Multilateral organizations can help to promote international cooperation and harmonize national STC frameworks.

It is important to engage all relevant stakeholders in STC policy development and implementation. This ensures that all perspectives are considered and that the resulting policies are feasible and effective. Stakeholder engagement can also help to build support for STC and promote compliance by giving stakeholder groups a seat at the table and ability to shape policy requirements and outcomes. That said, if this was easy or predictable to do, many countries would already be doing it. The following challenges may get in the way of effective stakeholder

5 "Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence," The White House, October 30, 2023, <https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/>.

and ecosystem coordination:

- Differing or conflicting interests: Stakeholder groups may have differing, if not outright conflicting, interests and priorities when it comes to STC. The most obvious and known example is private sector focus on minimizing the burden of STC regulations, while government and civil society organizations are often focused on maximizing the effectiveness of and compliance with STC regulations.

- Lack of clarity or confusion about roles and responsibilities: Stakeholder groups may not fully understand their or others' roles, and/or may see healthy overlap of capabilities or responsibilities as competition; alternatively, they may reject certain capabilities or responsibilities seeing them as in the purview of other stakeholder groups.

- Lack of a coordinating ecosystem entity: It is often helpful to build a deliberate and identifiable STC ecosystem along with sub-ecosystems (industry, academia, law enforcement, policymakers, etc.), however that is not always easy to do or maintain without a willing and reliable coordinating entity or individual(s).

- Lack of an established coordination mechanism(s): There may not be any established forum to coalesce the ecosystem outside of ad hoc meetings or outside of high-level policy discussion engagements.

- Lack of awareness: More traditional stakeholders in the ecosystem (government, industry) may be unfamiliar with or unclear as to the role of less traditional or newly emerging stakeholders within the "system," which can result in those stakeholders going unrecognized or actively left out of important STC conversations and initiatives.

- Lack of resources: Some stakeholders may lack the resources to participate effectively in the stakeholder engagement processes.

Overcoming the above stated and other challenges to global STC goals can be done at many levels including but not limited to the following:

- Cultivate and reinforce a STC "ecosystem identify:" talk about and define the STC ecosystem and champion a "whole of ecosystem" approach to national and international STC goals.

- Conduct stakeholder identification and ecosystem mapping: It is important to know which stakeholders can or should be involved in or are impacted by STC policy development and implementation. This can be done in a mapping exercise that defines the criteria for who is part of that ecosystem, lists all vested stakeholders and their respective roles, mission lines of effort, and interests, and draws connections for how these stakeholders could be, or are not connected and provides some actionable analysis for why this information matters.

- Develop stakeholder and/or ecosystem engagement plan(s): Once key stakeholders have been identified and the ecosystem has been mapped, it is important to develop a

stakeholder and/or ecosystem engagement plan. This plan should 1) outline engagement objectives, 2) list specific stakeholders to involve, and 3) communicate engagement mechanisms to be deployed.

- Diversify engagement methods and report on outcomes (particularly successes): It is important to use a variety of interaction and coordination methods to ensure inclusion of all the different stakeholders. Engagement modalities include but are not limited to meetings, workshops, seminars, and consultations. When engagements produce tangible results, spread the word so others can build their understanding of how to achieve or replicate such successes. Where it goes less well, talk about that as well so the community can learn from each other.

- Provide or seek training and resources: Where stakeholders lack awareness of STC issues or the nature or importance of their role or contribution, it is important to provide them the relevant training and resources to improve awareness and role clarity. Ways to do this include developing and disseminating educational content and materials, providing access to experts, and offering financial support.

In the absence of a defined engagement strategy, at worst, multi-stakeholder coordination and cooperation will be messy, complicated, unproductive, and delay or obstruct progress. At best, it may give stakeholders a false sense of forward motion. However, by applying the above recommendations, policymakers and other STC leaders and advocates can overcome such stakeholder engagement challenges and hasten progress on shared goals, foster mutual understanding among stakeholders, and ensure that stakeholder voices are reflected and represented in STC policies, guidelines, and practices to improve buy-in and compliance outcomes.

III. STC Ecosystem Engagement and Capacity Capture

As mentioned in the above section, multistakeholder engagement outcomes are neither guaranteed nor always intuitive in the absence of deep stakeholder knowledge. Knowing how and when to coalesce stakeholders, when to engage them directly, when to leave them to their stovepipe, and toward what end one is convening them, is one part art and one part science. It is imperative to intimately understand all the stakeholders, their roles and responsibilities, and areas of connectivity, friction, or overlap as well as traditional cultural and sectoral cultural dynamics that inform their relationships and behaviors. There is no established or accepted multi-stakeholder engagement "playbook" to coach these principles and engagement strategies despite nearly all STC goals being dependent upon the successful coordination of multitudes of stakeholders. Finding ways to reflect the totality of perspectives requires academic study but more importantly, requires practical interactions facilitated by masterful and trusted "coalescers." Overcoming stakeholder disparities in awareness, interest, commitment, and compliance is a daunting task but can and must be done to improve STC systems and compliance with STC regulations. Below are entry points where the community could assert itself to immediately begin making traction:

Identify Capacity Gaps

- Human Resources: Many stakeholders, particularly in the private sector, are not aware of STC requirements or the importance of their role in complying with these requirements. This can lead to unintentional violations of STC regulations. There are also partners around the world for whom STC is a developing concept particularly in the context of countering WMDs or proliferation prevention. Customs, law enforcement, and border protection personnel training on STC concepts and linkages to their unique job responsibilities is a capacity development gap that can be easily addressed with focused intention.

- Financial Resources: Regardless of whether a stakeholder is part of the public or private sector, funding is almost always less than requirements demand. Stakeholders would benefit from learning about specific financial planning tools and strategies so they can better predict and identify paths to meet financial requirements, e.g., sources of revenue or funding and efficient ways to leverage limited or discrete funds would improve STC outcomes and stakeholder relationships (less friction, more cooperation). In cases where international donors provide training, awareness raising, or material support, they should also carve scope and budget to provide end-users coaching on sustainable budget practices and financial planning sessions to 1) ensure that operationalizing capabilities is at the forefront of their minds, and 2) set the expectation from the beginning that recipient partners have a plan for integrating new material or human resources into their new capabilities or capacities.

- Material Resources: Many stakeholders lack the material resources to develop and implement effective STC systems or processes. This can make it difficult to comply with STC regulations and prevent the proliferation of sensitive goods and technologies. For example, important detection and analysis training provided to partners around the world is not always accompanied by the specialized equipment needed to apply learned skills. Conducting pre-training assessments on partner ability to support material requirements would ensure learning outcomes are both operationalizable and sustainable.

- Authorities and Leadership Nodes: Understanding where authority figures and leadership nodes exist within STC ecosystems makes it possible to surgically engage and integrate them into STC capacity planning and development. Their early buy-in and awareness of broader national STC capacity goals offers them an opportunity to contribute or allocate resources to build partner stakeholder capacities or to request capacity support as the ecosystem pursues shared goals.

- Process and Protocol: Different stakeholder groups may have different STC interests and priorities. For example, the private sector may seek to minimize the burden of STC regulations, while civil society organizations may seek to maximize regulatory effectiveness. Conflicting goals may make it difficult to reach consensus on STC policies and programs. In other circumstances, neighboring partners may adhere to different procedures or protocols in their assessment, handling, and/or search of controlled dual-use items or sensitive cargoes. In those cases, it would be beneficial for liaison teams to build strong relationships with their counterparts to assess where process and protocols are in harmony or at tension to avoid border control or transit loopholes.

To address the above requires some combination of the below, and potentially other, solutions:

Capacity Solutions

- Technology: Technology can be used to improve stakeholder engagement and capacity development in a number of ways. For example, online learning platforms can be used to provide training on STC issues to stakeholders all over the world. Social media can be used to raise awareness of STC issues and facilitate communication between stakeholders.

- Cross-sector collaboration: Cross-sector collaboration can help to overcome the challenges of STC stakeholder engagement and capacity development. For example, government agencies, the private sector, and civil society organizations should work together to identify, develop, and facilitate training programs, share resources, and advocate for STC policies.

- Engaging civil society and the private sector: Civil society and the private sector can play a valuable role in STC capacity development. Civil society organizations can raise awareness of STC principles or challenges, champion less engaged or underrepresented stakeholder and sub-stakeholder communities to bring them into the ecosystem, provide competency building training on different elements of STC implementation, and advocate for comprehensive, resilient, and up to date STC policy frameworks, guidelines, and outreach strategies. The private sector can also provide financial support for STC capacity development programs, share, or bring awareness to different community resources or tools, and offer specific technical or other expertise in support of national STC goals or needs.

Capacity Development Modalities

- Online learning platforms (tool): Online learning platforms can be used to provide training on STC issues to stakeholders all over the world. This is particularly beneficial for stakeholders spanning multiple locations or countries, or stakeholder communities who may not have regular or easy access to traditional training programs.

- Webinars and E-Learning (instruction): Webinars can be used to provide training on STC issues to stakeholders in a convenient and cost-effective way. Webinars can also be used to facilitate dialogue between stakeholders from different sectors. E-learning modules can be used to provide self-paced training on STC issues to stakeholders. This is particularly beneficial for stakeholders who are busy and have limited time for training.

- In person engagement, coaching, and capacity-building: Creating networks of nongovernmental practitioners and organizations who have expertise in STC, or some specific or ancillary aspect of this disciplinary "field" is crucial to maintain a consistent source of individual and group training, mentoring, advocacy, and professional development. Building enduring rapport and relationships provides opportunities for knowledge cross-pollination and global connectivity among counterparts. Regular meetings, convenings, short courses, and one-on-one coaching can be effective and reinforcing for professionals who may otherwise feel under-engaged or confused about

how and where to maintain their professional "edge."

- Social media: Social media can be used to raise awareness of STC issues and facilitate communication between stakeholders. For example, government agencies can use social media to share information about STC regulations, official resources, and upcoming events. Civil society organizations can use social media to advocate for stronger STC policies and share resources on STC issues.

Cross-Sector Collaboration Value

- Establish cross-sector working groups: Cross-sector working groups can be established to bring together stakeholders from different sectors to discuss STC issues and develop solutions. For example, a working group could be established to develop a training program on STC for customs officers and private sector export compliance professionals.

- Organize joint events: Government agencies, civil society organizations, and the private sector can organize joint events on STC issues. This could include workshops, conferences, and seminars. Joint events provide an opportunity for stakeholders to learn from each other and share best practices.

- Develop partnerships: Government agencies, civil society organizations, and the private sector can develop partnerships to work together on STC capacity development projects. For example, a government agency could partner with a civil society organization to develop a training program on STC for customs officers.

Civil Society and Private Sector Contributions

- Civil society organizations: Civil society organizations can play a valuable role in STC capacity development by:
    - Providing training on STC issues to all ecosystem stakeholders.
    - Providing platforms for integrating or amplifying new or traditionally underrepresented stakeholder voices.
    - Conducting STC awareness raising campaigns, outreach strategies, and advocating for STC policies.
    - Monitoring STC regulatory compliance and providing early warning information to authorities where suspected breaches or vulnerabilities in the STC regime are occurring.
    - Conducting STC research and analysis.
    - Advising policymakers and other public sector stakeholders.

- The private sector: The private sector can play a valuable role in STC capacity development by:
    - Providing financial support for STC capacity development programs.
    - Sharing expertise on STC compliance best practices.
    - Developing and implementing innovative STC solutions.
    - Providing current information to the ecosystem about dual-use technology innovation and application trends.

Policymakers can create a more robust and effective STC system by engaging civil society and the private sector in STC capacity development efforts. And all stakeholders should start local and actively seek opportunities to leverage technology. There are multiple entry points for stakeholders to make a positive impact within STC. Utilizing technology in new and creative ways for training and capacity development, championing cross-sector collaboration, creating modalities and forums that nurture ecosystem self-identification and cohesion, conducting outreach and integration of the whole ecosystem, and tapping into and leveraging the STC ecosystem (national and global) for expertise and resources, are just some examples.

IV. EMA and Capacity Capture

To achieve more actionable, representative, and viably implemented stakeholder engagement and capacity development outcomes in STC policy design and compliance efforts, this article suggests utilization of two distinct approaches: EMA and Capacity Capture.

1. Ecosystem Mapping and Assessment (EMA): A thorough yet practical analysis of the STC ecosystem to identify key players, their roles, and their influence on policy development and compliance. Understanding a stakeholder ecosystem's intricacies can aid in crafting targeted strategies and initiatives to improve STC outcomes.

2. Capacity Capture: This is a reference to a distinct method applied by Coalescion, a U.S. nonprofit organization whose mission is advancing and operationalizing global security literacy, representation, outcomes, and human interaction models. Coalescion's "Capacity Capture" process provides implementers and recipients of capacity-building training, or engagements a framework for identifying specific acquired knowledge, practices, skills, and tools (KPSTs) and process for how to operationalize those new KPSTs back in their home environment. This operationalizing element is a precursor to sustainment yet is frequently if not entirely overlooked as a focused competency and goal of global security cooperation activities.

Figure 1. The Capacity Capture logo as applied by Coalescion in its work is trademarked; the phrase Capacity Capture is not.

Awareness, adoption and application of EMA and Capacity Capture strategies and principles will produce a better informed, productively connected, and coordinated STC ecosystem by:

- Ensuring all relevant stakeholders are known, understood, and have a platform and inflection points to contribute perspectives, voices, innovation/ideas, and challenges throughout the broader ecosystem,

- Providing onramps to maintain awareness of evolving practices, assess capacity restrictions or leverage efficiencies, and identify specific mechanisms to enable optimal compliance with STC frameworks and guidelines.

- Enabling healthy and efficient information exchange within the ecosystem, and

- Cultivating a culture of and providing tools for self-assessment to identify and address stakeholder or capacity gaps within a given STC ecosystem.

Conclusion

STCs are at the very heart of many global security risks and existing, evolving, and rapidly emerging threats. If global STC stakeholders and their national counterparts are understood in the context of a STC stakeholder ecosystem, all stakeholders can be better leveraged in whatever their unique capacity to inform, advocate for, and operationalize STC frameworks. Doing so will result in a more uniform understanding and application of STC policies, higher compliance rates, and strengthened national and international security. In that process, EMA and Capacity Capture represent simple but important tools in the toolkit to be utilized. If done well and regularly, the result will be a more meaningfully understood, connected, coordinated, and effective STC ecosystem and with that a safer and more secure world.