PPSTI Strategic Plan (2016-2025)

Chapter 1 – Introduction

Science, technology and innovation (STI) represents an important pathway to improve the quality of growth, promote economic and social development, address common challenges and achieve prosperity of the Asia-Pacific and beyond.

According to the blueprint proposed in "2011 Honolulu Declaration", "2012 Vladivostok Declaration", "2013 Bali Declaration", and "2014 Beijing Declaration", the innovative growth strategy is closely related to regional cooperation, human resource exchange, and infrastructure development. APEC leaders committed to fostering a pragmatic, efficient and vigorous partnership on STI. In 2017, Leaders' Declaration emphasized the importance of innovation, science and technology as key drivers for economic growth and international trade and investment in the APEC region. Furthermore, APEC Putrajaya Vision 2040 which launched in 2020 indicates the APEC is in position to further advance the Bogor Goals. Guided by the goal of building an open, dynamic, resilient and peaceful Asia-Pacific community by 2040, APEC members will explore new frontiers for cooperation in the priority areas of trade and investment, innovation and digitalization, and strong, balanced, secure, sustainable and inclusive growth. The Vision states that APEC will foster an enabling environment that is market-driven and supported by digital economy and innovation, and pursue structural reforms and sound economic policies to promote innovation as well as improve productivity and dynamism, which will empower all the people and businesses in the region to participate and grow in an interconnected global economy. Later on in 2021, APEC leaders adopted the Aotearoa Plan of Action as a plan for implementing the Putrajaya Vision 2040.

At the same time, facing the unprecedented challenges brought by COVID-19 pandemic, we now recognize globally that STI plays an important role in the perspectives of health and safety, economic recovery and regional connectivity within the Asia-Pacific region, as well as other areas globally. With its unique intellectual resources and profound innovation tradition, the Asia-Pacific region has nurtured numerous innovative technologies, industries and mechanisms. At present, in the surge of scientific technological revolution and industrial transformation, information technology, biotechnology and manufacturing technology are expected to foster sustainable economic growth and cope with crises such as pandemics, and global challenges such as climate change and natural disasters.

In line with the above objectives of innovative growth through enabling crisis management system, regional cooperation, human resource exchange, structural reform, and infrastructure development, PPSTI can strengthen the synergy of government, academia and industry. PPSTI has an important role to play in engaging and bringing together actors involved in joint scientific research; and in the technology inception, dissemination, and commercialization cycle (including non-profit and commercial sectors). PPSTI will further strengthen cooperation with the APEC Business Advisory Council (ABAC) in setting PPSTI priorities and implementing projects and initiatives.

Chapter 2 – PPSTI Vision & Mission Statement

PPSTI will support the development of science and technology cooperation as well as effective science, technology, and innovation policy recommendations in APEC through collaboration between government, academia, private sector and other APEC fora. PPSTI will build science capacity, promote an enabling environment for innovation, enhance regional S&T connectivity, and leverage STI to support the Region's most pressing issues. Relevant activities can include workshops/seminars/forums/policy dialogues, tangible projects, joint research, and the establishment of new networks to support the following broader goals:

1. Strengthen APEC STI capacity to support inclusive, innovative economic growth, and the APEC Putrajaya Vision 2040.

2. To solidify STI's critical role in pursuing a dynamic and resilient Asia-Pacific community, and addressing global challenges.

In order to achieve these goals, PPSTI would adopt a mission-focused outlook, further strengthen cooperation with the APEC Business Advisory Council (ABAC), and modernize its priorities to support APEC's agenda under the Putrajaya Vision 2040 framework as a more influential and adaptable forum.

Chapter 3 – PPSTI Goals

Identify ways to support resilience and recovery by utilising science, technology and innovation systems, including through capacity building;

Adopt new and emerging technologies to stimulate growth, connectivity and digital transformation;

Share best practice, and promote approaches for a digital economy that fosters competition and promotes innovation;

Address challenges and barriers to achieving an enabling, inclusive, open, fair and non-discriminatory digital and innovation environment, ensuring that the fruits of digital technologies will benefit more people in the Asia-Pacific region;

Collaborate to develop an innovative digital business environment, including through frameworks and understandings on best practice that encourage the development, application, uptake and management of new technologies;

Promote ecosystems that support MSMEs, including those in the creative industry, to take advantage of the digital economy; and

Support the identification and integration of new and emerging sustainable transportation and mobility technologies and services.

Contributing to implementation of the APEC Internet and Digital Economy Roadmap and the La Serena Roadmap for Women and Inclusive Growth (2019-2030) in a comprehensive and balanced way to create an open, fair, just and non-discriminatory environment for innovation and productive forces.

Promote the important role of business sector in the innovation activities in real sector, and creating innovation-friendly policy environment to facilitate various kinds of enterprises to make more achievements in innovation.

Enhance capacity building in innovative growth and infrastructure development through workshops and projects at individual level and institutional level in terms of knowledge, skills, and uptake of innovation outputs. Improving linkages, networking capability and knowledge sharing among different groups of private and public stakeholders.

Chapter 4 – Critical Success Factors

• Engaged, committed, and collaborative stakeholders (government, private sector, and academia).

• Development of policy recommendations and sharing of best practices.

• Development and implementation of projects and initiatives that align with PPSTI's strategic orientations.

• Promoting collaboration with other APEC fora as well as other regional and international organizations to jointly address issues on innovative growth.

• Coordinated work activities with other APEC fora to ensure unique value add and efficiency across tables' (i.e., Intellectual Property Experts' Working Group, Ocean and Fisheries Working Group, Energy Working Group, Emergency Preparedness Working Group, SME Working Group, Digital Economy Steering Group).

• Adequate funding for PPSTI proposed activities.

• Adapting to the changing circumstances to meet the needs of the new normal.

Chapter 5 – Agreed Priorities, Objectives and Key Performance Indicators (KPIs)

PPSTI is composed of three Sub-Groups. Each Sub-Group will determine its Agreed Priorities, Objectives and Key Performance Indicators (KPIs):

Sub-Group （SG）	**Agreed Priorities**	**Key Performance Indicators (KPIs)**
A. Building Science Capacity in the field of human capacity, science integrity and science awareness / (or) Building Science Capacity and Future Skills	A.1. Enhance Human Capacity	Enhanced STI education with an increase of the degree attainment, researches, and academic publications and technology outputs.
		Promotion on the communication capability among young scientists and students with the students in STEM education.
		By 2025 all APEC Member Economies would continuously strengthen the international cooperation activities with an increase of the number of training courses among different economies through 30-40 projects.
	A.2. Improve Science Integrity	By 2025 all APEC Member Economies would adopt the Responsible Conduct of Research※ Policies and Practices with an increase of the number of laboratories applying the RCR.
		By 2025 all APEC Member Economies would adopt the RCR Policy with an increase of the number of laboratories that are GLP certified.
		By 2025 all APEC Member Economies would establish a relatively good system of academic integrity through the procedure of peer Review and merit-based screening of research projects.
	A.3. Increase Science Awareness	By 2025 Public Participation in STI Activities and Events would grow significantly in all APEC Member Economies.
		By 2025 all APEC Member Economies would have greater press coverage of STI, with the identification of development of reliable measures of the public awareness of the importance and value of STI.

※Responsible conduct of research (RCR) is defined as "the practice of scientific investigation with integrity." It involves the awareness and application of established professional norms and ethical principles in the performance of all activities related to scientific research.

		Significant Boosts of the Public Funding for Science, Science Education, Technology Development and Innovation Activities will be achieved in all APEC Member Economies through PPSTI's appeal and effort.
B. Promoting Enabling Environment for Innovation	B.1. Promote Science and Technological Entrepreneurship	Enhance the linkages between entrepreneurial activity and science and technological activities. Encourage entrepreneurial activity by groups with untapped economic potential in science, technology, engineering and mathematic (STEM) fields especially women, and youth, persons with disabilities and others. Promote experiential models of entrepreneurship outside of traditional institutional learning models. Strengthen linkages with the private sector to connect science and technological activities to promote entrepreneurship such as business plan competitions and mentorship programs. Share information on entrepreneurial programs and best practices and develop policies recommendations to foster scientific and technological entrepreneurship.
	B.2. Accelerate Commercialization of Science and Technology	Increase the linkages between public research institution and industry on scientific breakthroughs. Share information on public research and development programs to support commercialization programs. Encourage mapping of existing metrics or development of metrics to link science and technological investments with commercialization activities. Promote understanding of the partnership between universities and the private sector in promoting knowledge flows and the role intellectual property protection plays in advancing research, development, financing and commercialization of innovation. Foster policy recommendations to facilitate research and development commercialization. Strengthen public-private dialogue on best practices of the commercialization of science and technology, and cooperation with science and technology enterprises. Facilitate research and development as well as investment in innovative digital technologies, enabling digital technologies and the internet to promote innovation in products, services, processes, organizations and business models.

		Economies also need to improve the business environment through implementing policy frameworks that promote innovation in the Internet and Digital Economy, intensifying public-private coordination in the design of innovation policies and system and development of digital infrastructure.
	B.3. Promote Public-Private-Partnerships for Science and Technological Innovation	Strengthen links between the public and private sectors by organizing 20-30 workshops/seminars/dialogues. Develop an inventory of model public-private partnerships and best practices to support science and technological innovation. Strengthen links between the public and private sectors to support research and development commercialization including financing mechanisms. Develop frameworks and policy recommendations to increase public-private partnerships in support of commercialization.
	B.4. Adopt New and Emerging Technology and augment consistent environment for multilateral cooperation	Promote dialogue on new and emerging technology including on prospects for taking advantage of big data, cloud computing, blockchain, artificial intelligence and others, and promote policies supporting and taking pro-measures to invest in research and education of the technology. Build new and emerging technology innovation partnership between economies, provide platforms for new and emerging technology innovation, such as technology policies and practices sharing, to address common problems facing economies.
C. Enhancing Regional Science and Technology Connectivity	C.1. Promote and Empower young/early career innovators to drive collaborative cross-economy STI activities to address current and future challenges	Formulate PPSTI policy recommendations to promote the empower young/early career innovators from the aspects of skill, experiences, and pressure adjustments through PPSTI objects and meetings. Encourage young/early innovators to address grand challenges. Improve young scientists' skills/performances. Promote mentorship between young scientists & engineers and experienced innovators. Participation by young/early career innovators in PPSTI projects and meetings. Create PPSTI policy recommendation to promote and empower young/early career innovators.

	C.2. Accelerate S&T knowledge sharing to strengthen regional connectivity as an enabler for innovation	Formulate PPSTI Policy recommendations to set procedures and mechanisms for knowledge sharing, scientific data sharing and S&T knowledge sharing. Share Best practices and experiences. Establish procedures and mechanisms for knowledge sharing. Promote transparency. Promote scientific data sharing. Create PPSTI policy recommendation to accelerate S&T knowledge sharing.
	C.3. Create STI ecosystems & STI networks that strengthen regional STI linkages	Formulate PPSTI policy recommendations to strengthen STI ecosystems and STI networks. Enhance connectivity of industry, academia and policy maker consortiums. Promote dialogue among private sectors, scientists, engineers, including ways to connect venture capital funds for technology commercialization. Increase STI centers/long term mechanisms under PPSTI as appropriate to help PPSTI meet its mission. Examine opportunities for the launch of the APEC-wide digital platform to reunion all innovation and digitalization related stakeholders with a view to build up new technology markets and foster STI partnership in Asia Pacific

Chapter 6 – Project Development and Evaluation

Projects should be built in line with APEC Goals, PPSTI priorities, and the interests of majority members. The PPSTI Review Panel and members will evaluate the proposals according to the following criteria:

1. Relevance to APEC: Project proposals which are consistent with the APEC leaders' direction of the future of cooperation, the instructions of AMM and APEC ministers of science and technology, the Initiative on Innovation-Driven Development adopted in 2014, and related policy recommendations.

2. Fora Alignment: Project proposals that align with the PPSTI Strategic Plan 2016-2025 / current Annual Workplan / Collective Action Plan.

3. Project proposals which meet the following quality assessment criteria will be taken into consideration:

3.1 A direct link to the priorities identified by the current Host Economy.

3.2 Relate to priorities of majority member economies.

3.3 Contribute to achieving the objectives identified by each Sub-Group.

3.4 Build on existing work, while avoiding duplication.

3.5 Have good effectiveness and efficiency (with clear and achievable goals, good methodology, sufficient budget, expected outcomes etc.).

Chapter 7 – Project Monitoring and Evaluation

1. The Leading economies of the prioritized activities in this strategic plan will annually present the current progress and the trend of future cooperation of their projects. APEC-Funded projects will be monitored and evaluated by their lead Sub-Group at each PPSTI meeting.

2. The chairs of the Sub-Groups will report at every PPSTI plenary meeting the panorama of the on-going projects within their Sub-Groups and illustrate in advance whether and why to launch new proposals.

3. The Chair of PPSTI will report annually the implementation and effect of this strategic plan to the SOM Steering Committee on ECOTECH through the SCE Fora Report, and report to Senior Officials, as requested.

Chapter 8 – Review of Strategic Plan

PPSTI will prepare a progress report on implementation of projects approved every two years. The projects should be evaluated according to the Agreed Priorities and the KPIs.

It is accepted that the plan is a living document and the PPSTI members could propose changes/amendments at any time, to reflect changing and emerging priorities, as needed in line with current APEC guidelines.

PPSTI commits to conducting internal comprehensive evaluations of this strategic plan in 2021 and 2025※.

The PPSTI Chair, with support from the Governing Board, will lead this process. The evaluation is to be based on achievements against stated objectives and outputs, as well as consideration whether the sub-groups should continue to operate.

This strategic plan was revised based on the findings from the 2021 internal comprehensive evaluation.

※The first internal comprehensive evaluation of the PPSTI strategic plan was scheduled for 2020. Due to the COVID-19 pandemic, PPSTI members agreed to postpone this review to 2021.

Attachment – Biannual Prioritized Implementation Schedule (from 2022 to 2024

Sub Group Building Science Capacity

Priority Areas	Prioritized Activities*	Lead Economies	Start Date/ Completion Date	Outputs	KPIs & Review	Funding Types
A.1. Enhance Human Capacity						
A.2. Improve Science Integrity						
A.3. Increase Science Awareness						

Sub Group Promoting Enabling Environment for Innovation

Priority Areas	Prioritized Activities*	Lead Economies	Start Date/ Completion Date	Outputs	KPIs & Review	Funding Types
B.1. Promote Science and Technological Entrepreneurship						
B.2. Accelerate Commercialization of Science and Technology						
B.3. Promote Public-Private-Partnerships for Science and Technological Innovation						

Sub Group Promoting Enabling Environment for Innovation

Priority Areas	Prioritized Activities*	Lead Economies	Start Date/ Completion Date	Outputs	KPIs & Review	Funding Types
B.1. Promote Science and Technological Entrepreneurship						
B.2. Accelerate Commercialization of Science and Technology						
B.3. Promote Public-Private-Partnerships for Science and Technological Innovation						

Sub-Group Enhancing Regional Science and Technology Connectivity

Priority Areas	Prioritized Activities*	Lead Economies	Start Date/ Completion Date	Outputs	KPIs & Review	Funding Types
C.1. Promote and Empower young/ early career innovators to drive collaborative cross-economy STI activities to address current and future challenges						
C.2. Accelerate S&T knowledge sharing to strengthen regional connectivity as an enabler for innovation						
C.3. Create STI ecosystems & STI networks that strengthen regional STI linkages						

*Activities lacking a lead economy or necessary resources will be discussed at PPSTI 5 & 6, and then dropped if no member economy expresses interest to keep them forward.