

# **Action Plan for Implementation of the Asia-Pacific Information Superhighway (2022-2026)**

DRAFT 2

(as of 26 April 2021)

**Information and Communications Technology and Disaster Risk Reduction Division**

**United Nations Economic and Social Commission for Asia and the Pacific**

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## Executive Summary

This document has been prepared by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) secretariat for member States to discuss and develop a draft action plan for implementation of the Asia-Pacific Information Superhighway (2022-2026), which will be presented for adoption by the Committee on Information and Communications Technology, Science, Technology and Innovation (CICTSTI) at its fourth session in 2022.

The Asia-Pacific Information Superhighway (AP-IS) is a region-wide intergovernmental platform that aims to bridge the digital divide and accelerate digital transformation through regionally coordinated actions promoting digital technology, digital connectivity and the use of digital data. Building on the AP-IS Master Plan, the CICTSTI at its third session (CICTSTI-3) on 19-20 August 2020 recommended that the ESCAP secretariat set up a drafting group as part of the AP-IS Steering Committee to develop an action plan for the next phase of implementation of the AP-IS (2022-2026) to be considered and adopted by the CICTSTI at its fourth session in 2022.

The draft AP-IS action plan (2022-2026) will serve as a blueprint to facilitate cooperative actions among member States for transformation to digital economies and sustainable development in the region. Four key principles are considered in developing the draft action plan: (1) an action-focused plan for the future; (2) ownership by member States; (3) partnerships and regional cooperation; and (4) linkages with the Sustainable Development Goals (SDGs) and the World Summit on the Information Society (WSIS) Action Lines.

Based on these principles, the draft action plan proposes three pillars, a number of actions (see Appendix 1: Matrix of Actions), and three working groups that will guide implementation of the actions. In addition to its linkage with the SDGs and WSIS Action Lines, the draft action plan aligns with relevant global agendas such as the United Nations Secretary-General's Roadmap for Digital Cooperation, and with regional agendas such as the Association of Southeast Asian Nations Digital Master Plan 2025, the Trans-Eurasian Information Superhighway, and the Council of Regional Organizations of the Pacific's Information and Communications Technology Working Group.

Member States at the First Meeting of the AP-IS Drafting Group for Developing the Action Plan 2022-2026 on 25 May 2021 are invited to review and provide advice and guidance for further development of the draft AP-IS action plan. Based on comments and suggestions received from member States at this first meeting, the action plan will be revised together with the matrix of actions.

# 1. Introduction

This document has been prepared by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) secretariat for member States to discuss and develop a draft action plan for implementation of the Asia-Pacific Information Superhighway (2022-2026), which will be considered and adopted by the Committee on Information and Communications Technology, Science, Technology and Innovation (CICTSTI) at its fourth session in 2022.

## 1.1 Background and Evolution of the AP-IS

The Asia-Pacific Information Superhighway (AP-IS) supports the implementation of United Nations General Assembly (GA) resolutions 69/204 adopted in 2014 and 70/125<sup>1</sup> adopted in 2016, which expressed concerns regarding the digital divide in access to information and communications technologies (ICTs) and broadband connectivity among countries at different levels of development. The AP-IS is also aligned with the need to harness the potential of ICTs as accelerators in the achievement of the SDGs.

The AP-IS supports the implementation of ESCAP resolutions 71/10<sup>2</sup> and 75/7<sup>3</sup> adopted in 2015 and 2019, respectively. Aligned to the GA resolutions, the ESCAP resolution 71/10 expressed concern about the digital divide and requested the ESCAP secretariat to promote the sharing of experiences, good practices and lessons learned in ICT. The ESCAP resolution 75/7 requested the ESCAP secretariat to continue supporting the ongoing activities of the AP-IS; support member countries with policy advice, technical studies and capacity building; and encourage the participation of various stakeholders.

Recognizing the need for continued regional cooperation to bridge the digital divide beyond 2020, the CICTSTI at its third session in August 2020 recommended that the ESCAP secretariat set up a drafting group as part of the AP-IS Steering Committee to develop an action plan for the next phase of implementation of the AP-IS Master Plan for the period 2022-2026, for consideration and adoption by the CICTSTI at its fourth session in 2022.<sup>4</sup>

## 1.2 Vision and Objective

### 1.2.1 Vision and Objective for 2019-2022

In the Master Plan for the AP-IS, the vision for the AP-IS is articulated as follows: “As a pillar of regional connectivity, the Asia-Pacific Information Superhighway initiative shall be a catalyst to develop seamless

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<sup>1</sup> A/RES/70/125. Available at <https://undocs.org/en/A/RES/70/125>.

<sup>2</sup> E/ESCAP/RES/71/10. Available at <http://undocs.org/en/E/ESCAP/RES/71/10>.

<sup>3</sup> ESCAP/RES/75/7. Available at [https://www.unescap.org/sites/default/d8files/event-documents/E75\\_Res7E.pdf](https://www.unescap.org/sites/default/d8files/event-documents/E75_Res7E.pdf).

<sup>4</sup> ESCAP/CICTSTI/2020/7. Available at <https://www.unescap.org/sites/default/d8files/event-documents/Final%20report%20CICTSTI3%2C%20English.pdf>.

regional broadband networks which improve affordability, reliance, resilience and coverage and thereby address the causes of digital divides, develop the Internet ecosystem to support the implementation of the Sustainable Development Goals (SDGs), and stimulate the digital economy in Asia and the Pacific”.<sup>5</sup>

The objective of the AP-IS is: “To improve regional broadband connectivity through a dense web of open access cross-border infrastructure that will be integrated into a cohesive land- and sea-based fibre network with the ultimate aims of increasing international bandwidth for developing countries in the region, lowering broadband Internet prices and bridging the digital divide in the region”.<sup>6</sup>

Over this first phase of implementation, the AP-IS has evolved into a region-wide intergovernmental platform for policy cooperation aimed at bringing seamless digital broadband connectivity<sup>7</sup> across the Asia-Pacific region. It has also supported accelerated implementation of digital transformation for the achievement of the SDGs and the World Summit on the Information Society (WSIS) Action Lines.

### **1.2.2 New Vision and Objective for 2022-2026**

The rapid uptake of ICTs is transforming economic and social activities around the world. These transformations have enabled delivery of information and services at unprecedented speed and scale, boosted productivity, spurred innovations and brought about many benefits. Yet, ICTs also pose many challenges and the digital divide risks perpetuating or even deepening existing inequalities. The COVID-19 pandemic has clearly demonstrated the link between digitalization and development by showing the potential of digital technologies and laying bare the socioeconomic impacts and development gaps that the digital divide perpetuates.

In light of these challenges, needs and changing policy priorities for digital transformation, a revised AP-IS vision and objective is proposed to build back better and leave no one behind.

The proposed vision for the AP-IS (2022-2026) is: “Connecting everything for everyone to accelerate the achievements of the 2030 Agenda for Sustainable Development”. The vision embodies the ever-evolving nature of digital technologies that provide both opportunities and challenges for improving the welfare of connected people.

In support of this vision, the proposed objective of the AP-IS (2022-2026) is: “To bridge the digital divide and accelerate digital transformation by promoting digital connectivity, digital technology, and the use and management of digital data”.

A summary of the current and proposed vision and objective of the AP-IS is presented in Table 1.

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<sup>5</sup> E/ESCAP/CICTSTI(1)/2. Available at [https://undocs.org/E/ESCAP/CICTSTI\(1\)/2](https://undocs.org/E/ESCAP/CICTSTI(1)/2).

<sup>6</sup> Ibid.

<sup>7</sup> There are no universally accepted definitions for broadband connectivity and digital connectivity. In this paper, broadband connectivity is defined as the high-speed Internet connection state with wide bandwidth data transmission rate. Digital connectivity means that the physical world such as robots and industrial equipment, and the cyberworld as an Internet virtual space, are connected in one network to analyse and utilize aggregated data and automatic control of things beyond the high-speed Internet connection.

**Table 1: Summary of current and proposed vision and objective**

	<b>Master Plan (2019-2022)</b>	<b>Proposed (2022-2026)</b>
<b>Vision</b>	As a pillar of regional connectivity, the Asia-Pacific Information Superhighway initiative shall be a catalyst to develop seamless regional broadband networks which improve affordability, reliance, resilience and coverage and thereby address the causes of digital divides, develop the Internet ecosystem to support the implementation of the Sustainable Development Goals, and stimulate the digital economy in Asia and the Pacific.	Connecting everything for everyone to accelerate the achievements of the 2030 Agenda for Sustainable Development.
<b>Objective</b>	To improve regional broadband connectivity through a dense web of open access cross-border infrastructure that will be integrated into a cohesive land- and sea-based fibre network with the ultimate aims of increasing international bandwidth for developing countries in the region, lowering broadband Internet prices and bridging the digital divide in the region.	To bridge the digital divide and accelerate digital transformation by promoting digital connectivity, digital technology, and the use and management of digital data.

## **2. Master Plan of the AP-IS for 2019-2022**

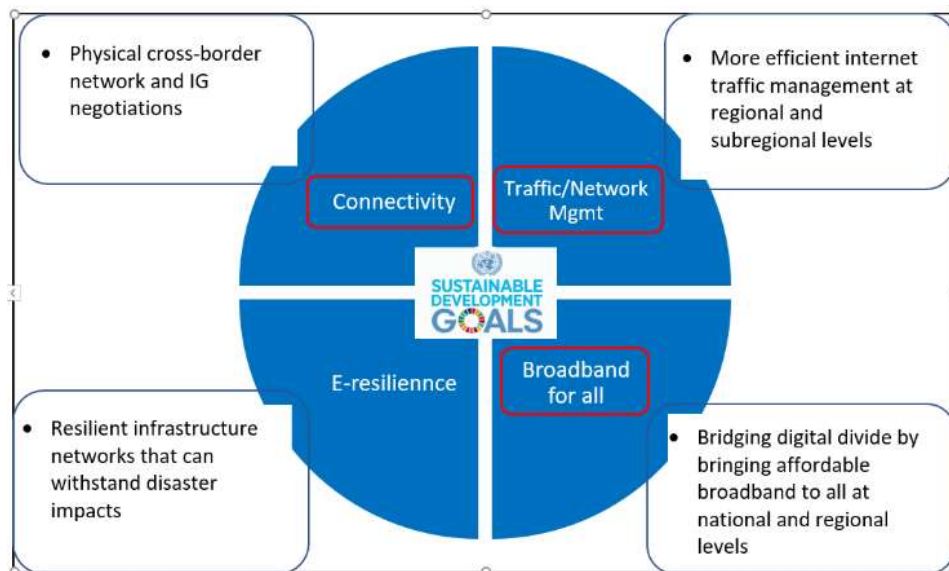
### **2.1 Four Pillars**

To achieve its objective, the Master Plan for the AP-IS (2019-2022) adopted four pillars with specific activities developed for each pillar. The four pillars are:

1. Connectivity
2. Internet Traffic and Network Management
3. E-resilience
4. Broadband for All

Pillar 1 (Connectivity) focuses on enhancing seamless regional broadband fibre-optic backbone connectivity. Pillar 2 (Internet Traffic and Network Management) promotes efficient Internet traffic and network. Pillar 3 (E-resilience) aims to enhance the resilience of existing and planned ICT infrastructure during and after natural disasters. Pillar 4 (Broadband for All) supports an environment for inclusive and affordable Internet access for all.

**Figure 1: Four pillars of the Master Plan for the AP-IS (2019-2022)**



## 2.2 Key Deliverables of the Master Plan for 2019-2022

Based on the strategic initiatives outlined in the Master Plan for the AP-IS (2019-2022),<sup>8</sup> and on subsequent status reports<sup>9</sup> by the ESCAP secretariat, the AP-IS has been promoting regional cooperation among Asia-Pacific countries to strengthen seamless regional broadband networks, and improve their affordability, reliance, resilience and coverage. Key activities and outcomes implemented by the ESCAP secretariat are detailed in Appendix 2.

## 3. Proposed Action Plan for Implementation of the AP-IS for 2022-2026

### 3.1 Rationale for Scale Up

Innovative digital technologies along with improvement in digital infrastructure and digital data have driven digital transformation in many Asia-Pacific countries. This is changing our development paradigm, including the whole fabric of value creation and management, production and consumption patterns.

The COVID-19 pandemic has further accelerated the adoption and advancement of digital technologies and their exponentially evolving applications – posing both opportunities and challenges. Digital connectivity can advance sustainable development solutions but also simultaneously cast unprecedented challenges. From a sustainable development perspective, the consequences of the digital divide, both

<sup>8</sup> ESCAP/CICTSTI/2018/INF/1. Available at [https://www.unescap.org/sites/default/files/ESCAP\\_CICTSTI\\_2018\\_INF1.pdf](https://www.unescap.org/sites/default/files/ESCAP_CICTSTI_2018_INF1.pdf).

<sup>9</sup> ESCAP/CICTSTI/2020/2, ESCAP/CICTSTI/2018/2, and E/ESCAP/CICTSTI(1)/1.

within and between countries, is a key challenge. Towards promoting sustainable and resilient recovery from the COVID-19 pandemic and the achievement of the SDGs, universal access to affordable and reliable broadband Internet has become more urgent than ever before. Many member States have recognized the need to turn the digital divide into a digital dividend. Consequently, they have elevated digital development to the top of their policy-setting agendas, with a focus on digital infrastructure development for broadband connectivity, digital technology development, and the use and management of digital data for sustainable development.

Building on the achievements of the first phase of implementation, the AP-IS as a region-wide intergovernmental cooperation mechanism is well positioned to boost cooperative actions among member States that accelerate global and regional digital transformation to achieve the SDGs and WSIS Action Lines. The AP-IS is also well-positioned to contribute to global digital agendas such as the United Nations Secretary-General's Roadmap for Digital Cooperation, and to subregional digital cooperation initiatives such as the Association of Southeast Asian Nations (ASEAN) Digital Master Plan 2025, the Trans-Eurasian Information Superhighway (TASIM) and the ICT Working Group of the Council of Regional Organisations of the Pacific (CROP), among others.

Against this backdrop, the Action Plan for Implementation of the AP-IS (2022-2026) aims to promote essential cooperative actions for digital development among member States, which include digital connectivity through improvement in the broadband ICT infrastructure, digital technology, and the use and management of digital data.

### 3.2 Principles

The following four principles are proposed to guide the development of the Action Plan for Implementation of the AP-IS (2022-2026):

1. **Action-focused plan** – The proposed action plan will be the regional blueprint for consolidated actions, and will include practical actions that enable ESCAP member States to bridge the digital divide and accelerate digital transformation. Considering the rapid development of technologies and the ever-changing digital environments, the action plan will address emerging demands, include preparations for anticipated changes and guide member States in shaping a digital future they envision.
2. **Ownership by member States** – This is key for the success of the action plan. The action plan will guide member States' collaboration with the ESCAP secretariat, United Nations agencies, regional organizations and other relevant stakeholders. Member States are recommended to assume full engagement, responsibility and accountability in developing the action plan, implement activities collaboratively, and achieve targets and outcomes towards digital transformation and sustainable development.



3. **Partnerships and regional cooperation** – Due to the cross-national and interlinked nature of digitalization, successful digital transformation requires multi-stakeholder partnerships with United Nations agencies, regional organizations, business sectors, civil society and other relevant stakeholders, as well as cross-border cooperation among member States.
4. **Linkage with global and regional agendas (SDGs and WSIS Action Lines)** – The action plan will be developed with consideration of better aligning with current global and regional digital and development agendas such as the SDGs, WSIS Action Lines, United Nations Secretary General’s Roadmap for Digital Cooperation, and various regional digital connectivity agendas.

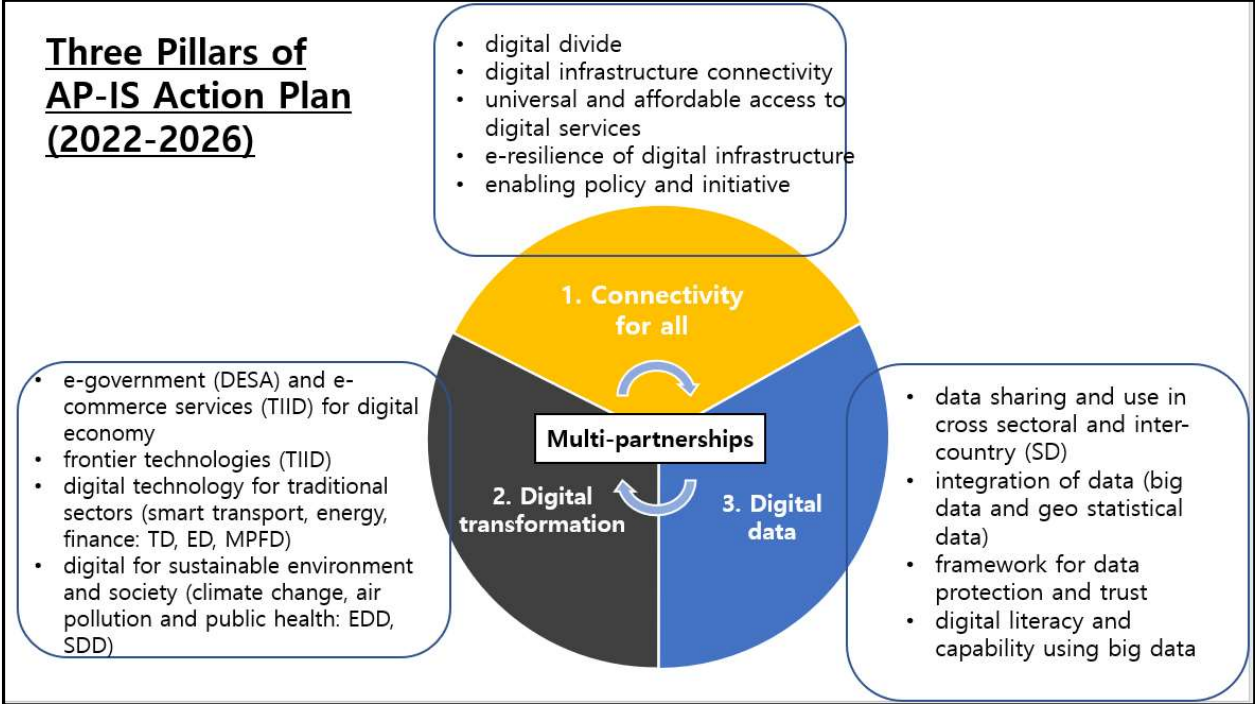
### **3.3 Three Pillars**

The draft action plan proposes three pillars to scale up the framework and scope of the AP-IS, with the objective to bridge the digital divide and accelerate digital transformation in light of rapidly-changing environments, including the recovery efforts from the COVID-19 pandemic. The three pillars are as follows:

1. Connectivity for All
2. Digital Transformation
3. Digital Data

Under each pillar, the proposed thematic areas are illustrated in Figure 2. Multi-stakeholder partnerships and cooperation cut across all three pillars.

**Figure 2: Three pillars of the Action Plan for Implementation of the AP-IS (2022-2026)**



**3.3.1 Pillar 1: Connectivity for All**

Pillar 1 on “Connectivity for All” in the AP-IS Action Plan (2022-2026) focuses mainly on enhancing the regional broadband backbone networks and infrastructure for the promotion of universal access to affordable and reliable Internet. This is an essential precondition for the use of emerging technologies such as artificial intelligence and the Internet of things that will accelerate digital transformation and cooperation. The vision of the AP-IS can be realized by first connecting people, organizations and things anywhere and all the time.

Key themes in this pillar include: bridging the digital divide, broadband ICT infrastructure, universal and affordable access to broadband Internet, e-resilience of ICT infrastructure, and enabling policy and regional cooperation.

**3.3.2 Pillar 2: Digital Transformation**

Pillar 2 on “Digital Transformation” focuses on the development of digital technologies, systems, platforms and processes, as well as capacities and skills of ESCAP member States. Building on increased access and affordability of digital infrastructure in Pillar 1, this pillar promotes the creation of innovative products, services and values by leveraging new digital technologies and digital data across all sectors. It is anticipated that digital transformation will be a paradigm shift in all sectors, including government, education, health care, transport, energy, agriculture and urban development.

This pillar covers: digital government and e-commerce services for building the digital economy; the application of frontier technologies, including artificial intelligence, robotics and biotechnology; digital technology application in traditional sectors such as smart transport, smart grid and digital financial services; and digital technology applications for sustainable environment and society such as smart climate action and e-health.

Consolidated actions to identify and remove barriers to digital transformation and create enabling environments for innovation using regulatory sandboxes can be covered in this pillar. Other actions include developing digital skills and competencies, enabling innovation and technology transfer, and ensuring integration and interoperation of existing systems and platforms. In summary, this pillar covers:

- Digital government and digital economy (e-commerce, smart transport, energy and digital finance)
- Digital for environment and society ((climate change, air pollution and public health)
- Digital transformation for small- and medium-sized enterprises and traditional sectors
- Frontier technology development

### **3.3.3 Pillar 3: Digital Data**

Pillar 3 on “Digital Data” focuses on strengthening digital data<sup>10</sup> creation, transition to open format, storing, maintaining, use, and integration with other data sources such as satellite-geospatial data, real-time Internet of things and statistical data as a means of promoting usability of data for value-added digital services.

Digital data is a foundational resource and enabler of digital connectivity and digital transformation. The rapid development of digital technologies relies on data-driven innovation. Data-platform-integrated activities such as data analytics lead to value creation across all segments of society, and innovative and sustainable data-based solutions can improve lives.

Therefore, the ability to create, collect, integrate, manage and use different data sets, including big data, is an essential pillar for effective evidence-based decision-making, as well as for maximizing the potential

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<sup>10</sup> Digital data is data that represents other forms of data using specific machine language systems that can be interpreted by various technologies.

of data analytic software and innovative technology such as artificial intelligences tools and platforms and frontier technologies.

This pillar promotes the effective coordination between national, subregional, regional and global frameworks for data sharing and use across sectors and countries. It promotes the integration and management of data (big data and geostatistical data), openness of public data while also recognizing the need for data protection and building data trust.

### **3.3.4 Multi-Stakeholder Cooperation: Integrating the Three Pillars**

Actions under the three pillars are intertwined. The benefits of data (Pillar 3) cannot be realized without digital connectivity (broadband connectivity) (Pillar 1) and digital technology applications (Pillar 2). Broadband ICT infrastructure (Pillar 1) cannot benefit without data (Pillar 3) and digital technology applications (Pillar 2). Therefore, seemingly articulated actions under different pillars should be achieved through integrated approaches via multi-stakeholder partnerships and cooperation.

## **3.4 Proposed Operational Structure**

In line with the proposed three pillars, a new operational structure of the AP-IS platform is proposed to support member States' implementation of the action plan.

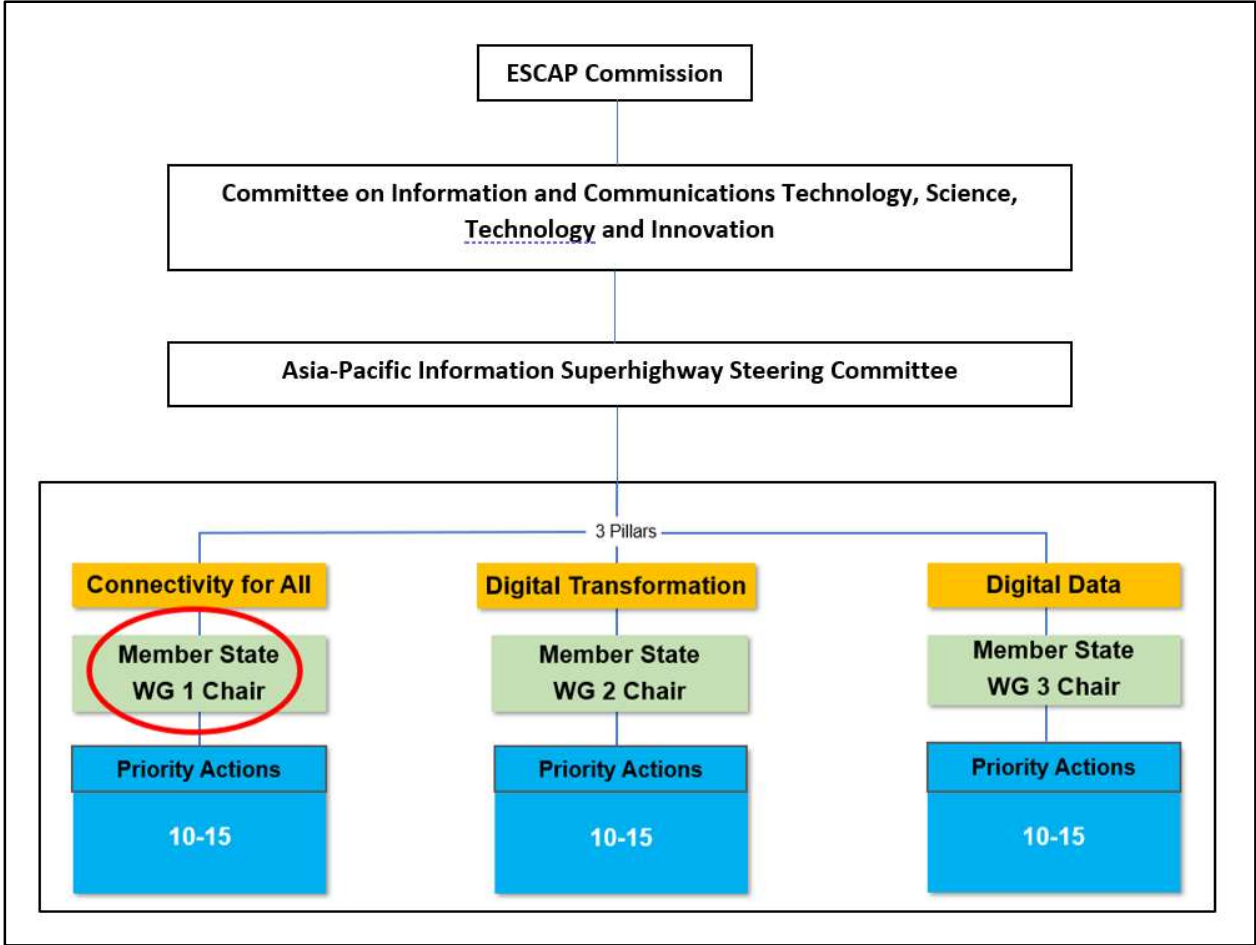
For each pillar, it is suggested that a working group is established, consisting of one chair, two vice chairs and champion member States who are interested in the pillar. The working group is expected to identify potential thematic areas of interest for collaboration (as guided by the proposed actions for each pillar). Through the leadership of the chair, each working group is also expected to identify priority actions for 2022-2026, which are based on national, subregional and regional digital-related priorities. The working group will periodically report on the status, progress and achievements of national/pillar implementation and its future plan/programmes to the AP-IS Steering Committee. The AP-IS Steering Committee will report to the CICTSTI, and the CICTSTI will report to the ESCAP Commission.

Any ESCAP member State may participate in any of the three working groups. However, it is recommended that member States join one working group, supporting a specific pillar, while keeping themselves engaged with and informed of progress of other pillars.

In the spirit of openness and the multi-stakeholder approach, and in line with ESCAP resolution 75/7, the active participation of various stakeholders, such as United Nations bodies and specialized agencies, regional and subregional organizations, and international financial institutions and partners, as well as the private sector, civil society, research institutes and think tanks, as appropriate, is expected in the development and implementation of the AP-IS platform.

The operational structure of the AP-IS platform under the proposed Action Plan for Implementation of the AP-IS (2022-2026) is illustrated in Figure 3.

**Figure 3: Proposed operational structure**



**4. Proposed Actions by Pillar**

The proposed actions for member States’ consideration and decision under each of the three pillars are listed in Appendix 1 of this document. The draft matrix of actions is prepared based on three criteria: (1) desirability; (2) achievability; and (3) present actions for 2022-2026.

**5. Means of Implementation**

An integrated set of means are recommended for the effective and efficient implementation of the proposed actions.

## **5.1 Promoting Intergovernmental Dialogues and Regional Practices**

As the region-wide intergovernmental cooperation platform, the AP-IS will support member States by organizing intergovernmental meetings and promoting the sharing of good policies, technologies and practices, as part of North-South and South-South Cooperation. The promotion of intergovernmental dialogues and regional practices provides member States with opportunities to share experiences and transfer knowledge and skills for effective, efficient and successful implementation of the action plan.

## **5.2 Strengthening Partnerships and Collaboration**

The proposed action plan will promote the continuous engagement of various stakeholders such as United Nations entities and specialized agencies, regional and subregional organizations, and international financial institutions and partners, as well as the private sector, civil society, research institutes and think tanks, as appropriate, including the ASEAN Secretariat, Asia-Pacific Telecommunity, International Telecommunication Union (ITU), United Nations Office of ICT, United Nations Special Programme for the Economies of Central Asia (SPECA) platform, and other relevant stakeholders to support member States' effective implementation.

Strong cooperation and partnerships across member States and various sectors will be central for setting common policy agendas, addressing mutual challenges, finding collective solutions, mobilizing necessary resources more efficiently, and ensuring shared accountability and commitment to the action plan. The fruitful partnerships and productive collaborations in developing online maps of backhaul networks among member States, ESCAP and ITU is an example of a good cooperative model.

## **5.3 Conducting Solution-focused Analytical Research, Knowledge Sharing and Capacity Building**

The proposed action plan intends to produce solutions for addressing identified digital connectivity challenges, based on analytical research and capacity building of member States. This includes leveraging existing analytical research and capacity building training workshops of various stakeholders, including the United Nations Asian and Pacific Training Centre for Information and Communication Technology for Development, to provide targeted capacity training modules on specific issues of importance to member States. For example, the Women ICT Frontier Initiative flagship programme aims to promote women's entrepreneurship in Asia and the Pacific through enhancing capabilities of women entrepreneurs in ICT and entrepreneurship so that they and their enterprises can become more productive, and hopefully grow and be sustainable so that they can actively contribute to community development, as well as to the local and national economy. This initiative could be further accelerated for training of trainers at the subregional level in order to accelerate in-depth knowledge of government officials in this area. In addition, better coordination through the use of a virtual research community network to share research findings and solutions among regional stakeholders will support member States in assessing the current

status, identifying common challenges and causes, and implementing appropriate measures in a more effective and cooperative way.

#### **5.4 Building Subregional Service Nodes**

In order to support member States in implementing the adopted actions, the action plan proposes the establishment and activation of three subregional service nodes that are affiliated to the AP-IS platform. The key objective of the service node is to provide practical digital support to policymakers of the AP-IS member States to address emerging challenges and find solutions in the commitments of South-South and North-South cooperation.

The subregional service nodes leverage existing national/regional institutions (agencies or organizations) to provide policy advisory service, solution packages and capacity building to neighbouring countries in the subregions. They will be expected to play as one practical vehicle for the implementation of the accepted actions led by member States within the framework of the AP-IS platform.

#### **5.5 Securing Financing and Resources**

Financial resources are always a critical means to achieving the adopted actions. Translating the planned actions into outcomes requires adequate financial and other resources together with appropriate capacity building, political will and multilateral cooperation. For successful implementation of the action plan under each working group, members of each working group are to work together with the secretariat, United Nations agencies, international organizations, development banks, regional organization and business sectors to secure resources for implementing the planned actions, as appropriate. The participation and partnership of digital technology companies, in addition to traditional sources of funding for development, is key.

#### **5.6 Regular Monitoring and Evaluation**

Regular monitoring and evaluation, including peer reviews and external evaluations, are crucial means to ensure the quality of implementation. It includes the collection of baseline data, comparative analyses of progress and outcomes across the actions, and assessment and documentation of successful policies and approaches, as well as problems and challenges. Regularly conducted monitoring and assessment provides good information and guide to member States for revisiting planning, implementation and modification of action courses.

#### **5.7 Harmonization with National Policies and Legislation of Member States**

To realize the full potential of digital technology and digital transformation, the action plan should be aligned with the priorities and unique conditions of member States. The action plan intends to enhance the quality and effectiveness of AP-IS implementation by supporting member States in improving their national policy, legal and regulatory frameworks to foster enabling environments, create new digital technologies and innovative ventures, and promote digital connectivity and digital data use.



## Appendix 1: Matrix of Actions

## **Appendix 2: Key Deliverables of the Master Plan for the AP-IS (2019-2022)**

### **Internet Exchange Points**

Pacific island developing countries requested the support of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) secretariat and partners through the Asia-Pacific Information Superhighway (AP-IS) to assess the technical feasibility of establishing a Pacific Internet exchange point (IXP) for improving Internet quality (latency and speed) in 2018. In response, ESCAP in collaboration with regional partners conducted a feasibility study in 2019 and an operational modality study in 2020 to identify the options and requirements for establishing a Pacific IXP. Subsequently, ESCAP facilitated country consultations on the Pacific IXP in Fiji, New Zealand and Samoa in 2020-2021 to establish the subregional IXP via an intercountry agreement.

In the effort to improve the efficiency of Internet traffic flow in Cambodia, Lao People's Democratic Republic, Myanmar and Viet Nam, ESCAP and the National Information Society Agency of the Republic of Korea carried out feasibility studies and expert working group meetings to guide the establishment of a common IXP.<sup>11</sup>

### **Co-deployment of ICT, Transport and Energy Infrastructures**

The ESCAP secretariat strengthened the capacity of policymakers of ESCAP member States in three pilot countries – Kazakhstan, Kyrgyzstan and Mongolia – to develop sustainable and inclusive co-deployment policies and mechanisms for transboundary information and communications technology (ICT) infrastructure connections with energy and transport infrastructures. It included capacity building, analytical research and sharing of knowledge products under the project on “Addressing the Transboundary Dimensions of the 2030 Agenda through Regional Economic Cooperation and Integration in Asia and the Pacific” (RECI). The RECI project team of ESCAP produced 10 main analytical reports<sup>12</sup> in 2020 on the co-deployment of ICT infrastructure with energy and road transport infrastructures in North and Central Asia. The ESCAP secretariat continues to update the thematic information website, <https://drrgateway.net/>, to support policymakers and other stakeholders with latest relevant information and events.

### **E-resilience Dashboard**

ESCAP offers several online visualization approaches to enhance the e-resilience of infrastructure. The ICT and Disaster Risk Reduction Division (IDD)<sup>13</sup> of ESCAP developed an e-resilience monitoring framework and an interactive online e-resilience dashboard with maps to illustrate the levels of e-resilience readiness. The ability to understand and measure e-resilience is a key component of successful disaster risk

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<sup>11</sup> ESCAP, “In-Depth Study on the Design and Implementation Plan of Internet Exchange Points in CLMV Countries”, March 2021. Available at <https://www.unescap.org/kp/2021/depth-study-design-and-implementation-plan-internet-exchange>.

<sup>12</sup> Knowledge products developed by the RECI project team in 2020 are available at: [https://www.unescap.org/kp?f%5B0%5D=kp\\_programme\\_of\\_work\\_facet%3A284](https://www.unescap.org/kp?f%5B0%5D=kp_programme_of_work_facet%3A284).

<sup>13</sup> ESCAP, “Our Work; ICT and Disaster Risk Reduction”. Available at <https://www.unescap.org/our-work/ict-disaster-risk-reduction>.

management and adaptation in the recovery period. The e-resilience dashboard combines quantitative, indicator-based assessments of e-resilience with relevant ICT- and disaster-related indicators of performance into a single composite. The IDD of ESCAP grouped ICT indicators under four thematic cross-cutting areas to model the e-resilience framework, namely: (1) ICT policy in different sectors; (2) ICTs' role in setting up new systems and applications; (3) ICTs' role in data management; and (4) ICT infrastructure as a physical foundation for the three areas above.

### **Research and Policy Advisory Service**

ESCAP in collaboration with regional partners conducted analytical research on various ICT-related issues under the framework of the Master Plan for the AP-IS 2019-2022. The research papers produced by ESCAP in 2020 include: three country reports in English and Russian for Kazakhstan and Kyrgyzstan; two reports in English for Mongolia; subregional reports on the co-deployment of ICT infrastructure with energy and transport infrastructures, and on disaster resilient infrastructure; and regional reports on financing infrastructure, and on linking rural transport systems to regional and international transport networks. ESCAP also produced a number of policy briefs on the socioeconomic aspects of ICT and financial inclusion with analysis on who is being left behind. These studies are available at the ESCAP website.<sup>14</sup>

The Trade, Investment and Innovation Division (TIID)<sup>15</sup> at ESCAP, in collaboration with its partners, especially the Asian Development Bank, carried out evidence-based research and published several reports on e-commerce policymaking and reform. Furthermore, workshops and meetings were organized since 2018 to train policymakers on e-commerce policy, and discuss how governments could collaborate with the private sector in promoting e-commerce development.

### **Capacity Building Programmes and Projects**

ESCAP and partners collaborated in conducting capacity training and workshops with the focus on strengthening the ICT infrastructure, enhancing connectivity and improving the efficiency of Internet network traffic management in the Asia-Pacific region in 2018,<sup>16</sup> 2019<sup>17</sup> and 2020.<sup>18</sup> In addition, ESCAP and partners conducted a subregional workshop on ICT co-deployment along passive infrastructure in South Asia in June 2019.

The Asian and Pacific Training Centre for Information and Communication Technology for Development (APCICT) of ESCAP supported member States in building national expertise and capacity in the areas of e-

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<sup>14</sup> ESCAP, "Knowledge Products". Available at [https://www.unescap.org/kp?f%5B0%5D=kp\\_programme\\_of\\_work\\_facet%3A284](https://www.unescap.org/kp?f%5B0%5D=kp_programme_of_work_facet%3A284).

<sup>15</sup> ESCAP, "Our Work: Trade, Investment & Innovation". Available at <https://www.unescap.org/our-work/trade-investment-innovation>.

<sup>16</sup> ESCAP, "Event: Subregional workshop on implementation of the Asia-Pacific Information Superhighway for achieving the Sustainable Development Goals in Pacific island countries", 19-23 November 2018. Available at <https://www.unescap.org/events/subregional-workshop-implementation-asia-pacific-information-superhighway-achieving>.

<sup>17</sup> ESCAP, "Event: Strengthening efficient Internet traffic management through a subregional Internet Exchange Point (IXP) in Pacific Island Countries", 3-5 December 2019. Available at <https://www.unescap.org/events/strengthening-efficient-internet-traffic-management-through-subregional-internet-exchange>.

<sup>18</sup> ESCAP, "Event: Second Working Group on Pacific Internet Exchange Point (IXP) and capacity training workshop on IXP's operational modalities (Virtual Meeting)", 5 August 2020. Available at <https://www.unescap.org/events/second-working-group-pacific-internet-exchange-point-ixp-and-capacity-training-workshop-ixp-s>.

government, information security and privacy, disaster risk management, and women entrepreneurship. The contextualization and integration of APCICT's programmes in countries' capacity-building programmes resulted in an average of over 10,000 people trained by partner institutions annually, strengthening the capacity of government officials, students and youth, as well as women entrepreneurs.<sup>19</sup>

The TIID of ESCAP also conducted capacity building programmes for policymakers of member States. Their programmes were based on research analyses<sup>20</sup> of leveraging digital technologies and e-commerce for inclusive and sustainable development. While e-commerce development in the region has largely been market driven, policy plays a critical role in gearing e-commerce towards inclusive and sustainable development objectives.

ESCAP also implemented extra-budgetary projects to enhance the capacity of government officials in various areas of digital connectivity in support of the implementation of the AP-IS. These projects include the RECI project (2018-2021); the project on "Enhancing Regional Broadband Connectivity through the Implementation of the AP-IS Initiative in Countries with Special Needs" (2019-2021); the project on "Frontier Technology Policy Experimentation and Regulatory Sandboxes in Asia and the Pacific" (2021 - 2023); the project on "Enhancing Digital Connectivity and Transformation for Building Back Better Post-COVID-19" (2021-2023); and the project on "Promoting Inclusive Digital Development in Support of the Implementation of the AP-IS" (2021-2023).

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<sup>19</sup> The list of APCICT activities since 2018 is available at: <https://e-learning.unapcict.org/>. The list of APCICT publications is available at: <https://www.unapcict.org/resources/publications>.

<sup>20</sup> The list of TIID publications is available at: [https://www.unescap.org/kp?f%5B0%5D=kp\\_programme\\_of\\_work\\_facet%3A178](https://www.unescap.org/kp?f%5B0%5D=kp_programme_of_work_facet%3A178).