

THE ASEAN ICT Masterplan 2020

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THE ASEAN ICT Masterplan 2020

Propelling ASEAN towards a digitally enabled economy that is secure, sustainable, and transformative; and enabling an innovative, inclusive and integrated ASEAN Community.



THE ASSOCIATION OF SOUTHEAST ASIAN NATIONS

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A. Towards a Digitally-Enabled, Innovative, Inclusive and Integrated ASEAN Community

2015 marked the establishment of the ASEAN Community, comprising the ASEAN Political-Security Community (APSC), ASEAN Socio-Cultural Community (ASCC) and ASEAN Economic Community (AEC). Information and Communications Technology (ICT) has played a critical role in supporting regional integration and connectivity efforts. And as the region forges ahead to further deepen economic integration and community building, ICT is expected to play an increasingly pivotal role. ICT, and in particular the Internet, has become a core part of the economy and embedded infrastructure, progressively underlying all aspects of socio-economic growth and development. ASEAN is now transitioning towards a digital economy. The importance and impact of this transition – from a single sector focus to a horizontal enabler of all sectors – should not be understated.

The first ASEAN ICT Masterplan (2010-2015) (AIM 2015) identified six strategic thrusts as its key objectives, namely, economic transformation, people empowerment and engagement, innovation, infrastructure development, human capital development and bridging the digital divide. Significant progress was made in each of these areas. For instance, teledensity and connectivity, particularly from mobile devices, skyrocketed throughout the region; the establishment of activities such as the ASEAN CIO Forum, Digital Content Exchange and ASEAN Cyberkids Camp, among others, have served as platforms for regular information exchange towards bridging the digital and information divide.

The most challenging barriers to entry noted at the outset of the AIM 2015 were the high cost of market entry and the strong position of established players. Today, these barriers have been substantially

lowered and the playing field levelled. Across ASEAN, digital tools such as computers and mobile devices have become cheaper and readily accessible, connecting people with information easily. Advances in mobile connectivity have enhanced and extended communication and trade networks, powering regional economic growth.

The creation of an integrated digital economy, however, goes further than enabling connectivity and focusing on the exciting and disruptive developments. Increasingly, all sectors of the economy are adopting and embedding ICT and fostering economy-wide growth and innovation. Thus, the next development of the ASEAN ICT Masterplan (2016-2020) (AIM 2020) is to focus on enabling such economy-wide transformation.

This includes supporting the many traditional sectors now in the midst of digital transformation or rejuvenation. Going digital is not simply defined by its hardware, software or networks; it is better associated with the need to connect individuals and communities regardless of their location, to facilitate faster access to services and to create new and better ways of doing business.

A digital economy is essentially a knowledge-based economy that comes with specific skill sets, and these are skills that many AMS do not yet have enough of. The key objectives of the AIM 2020 have thus focused on enabling the transformation to the digital economy and developing the human capacity necessary for this transition, facilitating the emergence of a single integrated market that is attractive to investment, talent and participation, and building a digital environment that is safe and trusted.

B. Vision

The vision for the AIM 2020 is to propel ASEAN towards a digitally-enabled economy that is secure, sustainable, and transformative; and to enable an innovative, inclusive and integrated ASEAN Community.

The AIM 2020 Vision will seek to achieve the following:

Digitally-enabled

Programmes for continual education and upgrading to equip ASEAN citizens with the latest infrastructure, technology, digital skill sets, information, applications and services.



Secure

A safe and trusted ICT environment in ASEAN, providing reassurance in the online environment by building trust in online transactions via a robust infrastructure.



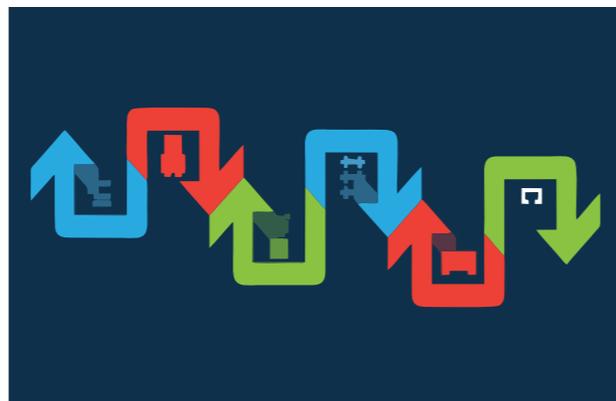
Sustainable

Responsible and environmentally-friendly use of ICT.



Transformative

A progressive environment for the disruptive use of technology for ASEAN's social and economic benefits.



Innovative

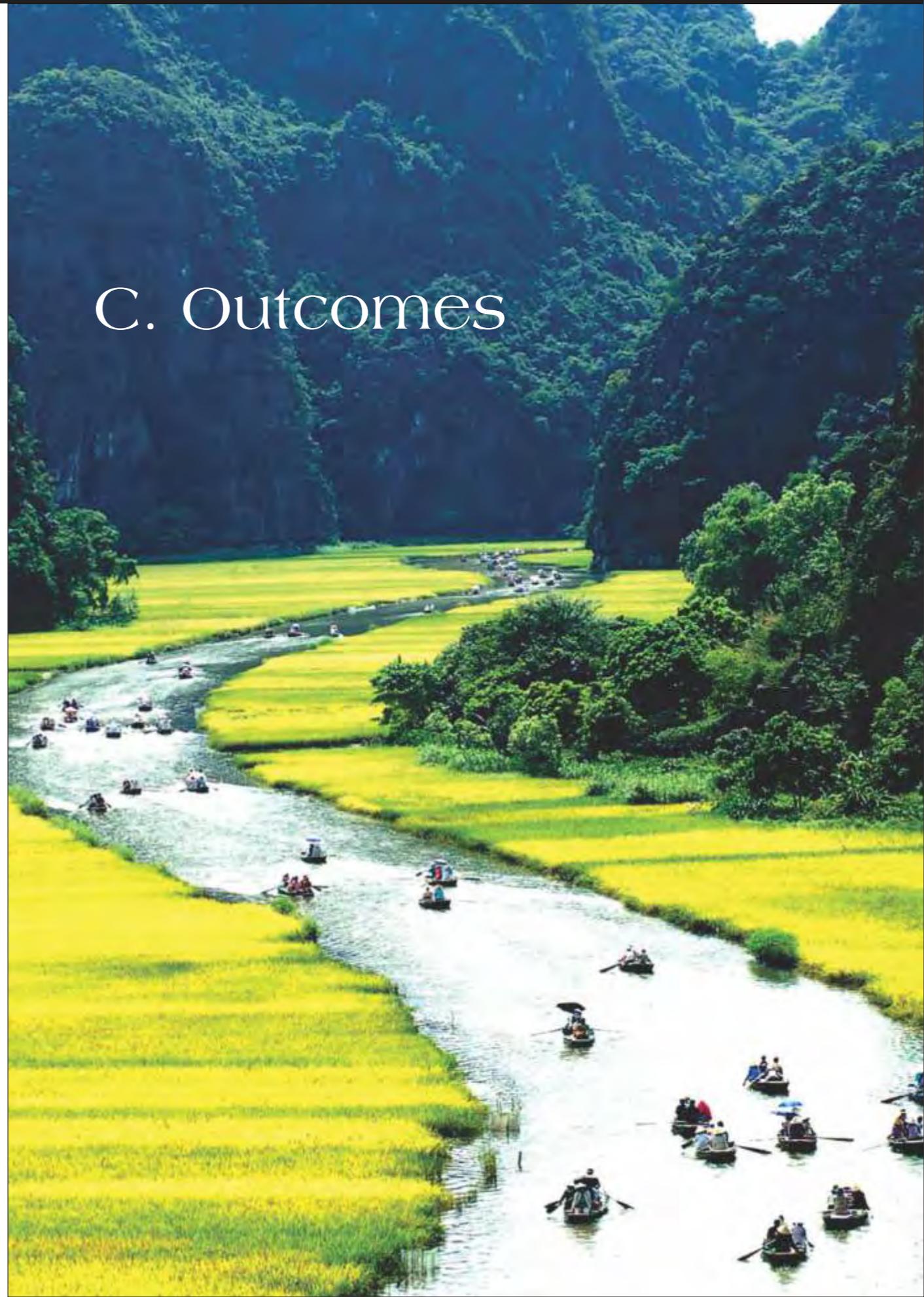
A supportive entrepreneurial environment that encourages innovative and novel uses of ICT.



Inclusive and Integrated

Empowered and connected citizens and stakeholders.

C. Outcomes



The Vision will result in five key outcomes that reflect how ASEAN will transform and adapt to the new digital economy by 2020. These are:



 **An Accessible, Inclusive and Affordable Digital Economy**
 ASEAN will address new and emerging digital and information divides through a sustained agenda of digital education in schools, re-skilling in next-generation telecentres, and life-long learning. ICT will be used to support digital inclusion and social equality, where marginalised, underserved and vulnerable communities have avenues for engaging and entering the digital economy.

 **Deployment of Next-Generation ICT as Enablers of Growth**
 In recognising ICT as a horizontal enabler, ASEAN will increasingly deploy their use in education and training, government service delivery, healthcare provisioning, disaster response and recovery, driving innovation in all economic sectors. ASEAN will continue to embrace next-generation ICT and innovatively apply new technologies to enhance the quality of life for ASEAN citizens.

 **Sustainable Development through Smart City Technologies**
 ASEAN will provide leadership in responsible development through the promotion of interconnected Smart Cities. Green policies will be promoted through the deployment of next-generation ICT, such as sensor networks and Internet of Things (IoT), and the benefits will be disseminated broadly through a focus on sustainable community practices and business models.

 **Multiple ICT Opportunities across a Single Regional Market**
 Through enabling an interconnected and interoperable digital economy, ASEAN will utilise ICT to further support and drive the AEC. ICT across ASEAN will represent a sizeable market opportunity, facilitate the integration of other sectors of the economy, lower business costs, achieve economies of scale, and foster synergies towards greater socio-economic development.

 **Secure Digital Marketplaces, Safe Online Communities**
 ASEAN will develop trusted online marketplaces, buttressed by strong security measures. It will support ASEAN trade facilitation platforms and promote and protect inter- and intra-regional digital trade.



D. Eight Strategic Thrusts

The AIM 2020 encompasses eight strategic thrusts that work together to support the advancement of the ASEAN Community. This includes a focus on utilising ICT in the Single Market; it encompasses the importance of New Media and Content, especially on local content creation, in building ASEAN's ICT capacity and capabilities; and it seeks to buttress the regional online ecosystem by providing Information Security and Assurance to the ASEAN Community.

Addressing the digital divide – an issue that has only increased in importance and complexity – has now been incorporated into the People Integration and Empowerment through ICT strategic thrust, recognising that this is not a standalone issue of connectivity, but also about accessibility to services and community.

In all, the eight interconnected Strategic Thrusts support the Vision and the Outcomes of the AIM 2020.



1. Economic Development and Transformation

The establishment of the AEC will provide opportunities for ICT and next-generation technologies to enable sustainable economic development. ASEAN will work to strategically position its member states to be linchpins in the digital economy, especially in key priority areas such as digital trade and services.



2. People Integration and Empowerment through ICT

ASEAN citizens will form meaningful connections via ICT platforms, and work together to bridge digital divides and build a common ASEAN identity. Through a committed focus to increase broadband penetration, affordability and ICT usage in the region, ASEAN citizens will be digitally empowered through easily accessible information and affordable services to achieve personal, communal and social goals.



3. Innovation

Fostering a vibrant and responsive ICT sector is a collaborative effort between the public and private sectors. ASEAN will work to spur and encourage more entrepreneurship and idea generation so as to become a leader in ICT and next-generation applications.



4. ICT Infrastructure Development

ICT infrastructure development continues to underpin the AIM 2020; it remains a necessary foundation for all other ICT development. ASEAN will continue to develop and improve a strong infrastructural backbone, so that a sustainable digital economy can grow and thrive.



5. Human Capital Development

The AIM 2020 will equip ASEAN citizens to be digital-literate participants in the digital economy. It also focuses on strengthening workforce talents through on-going re-skilling programmes and the attraction of talents through increased opportunities so as to enable broad-based economic growth.

6. ICT in the Single Market

The first of three new Strategic Thrusts aims to enable an ASEAN digital economy to develop and grow. ASEAN will align the AIM 2020 in aid of the AEC goals so as to lower the cost of doing business, achieve economies of scale and scope, and enable synergies towards sustainable business models within ASEAN.

7. New Media and Content

The second of three new Strategic Thrusts recognises the importance of both quality and quantity of ASEAN content being delivered across ICT channels. Increasing ASEAN content online for citizens will enable a range of potential interventions – from widening and deepening citizen engagement to creating new possibilities for the co-creation of services thereby unlocking opportunities for participation and growth. ASEAN creativity will manifest itself into value adding digital content and services that are well regarded on the global stage.

8. Information Security and Assurance

The final of three new Strategic Thrusts focuses on the increasing prospect of cyber threats – both economic and social – posed by malicious software, hacking, data theft and online fraud. If left unchecked, these threats could impede ASEAN's progress as a digitally-enabled community. ASEAN will build a trusted digital ecosystem, so that transactions and information exchanges will be safe, secure, and trustworthy.

E. Strategic Thrusts, Initiatives, and Action Points





1. ECONOMIC DEVELOPMENT AND TRANSFORMATION

Initiative 1.1 Accelerate the Development and Growth of ASEAN's ICT Industry and Services *Strategically support the growth of priority areas of ASEAN's digital economy*

ACTION POINT	DESCRIPTION	TARGET/PROJECT
1.1.1 Promote Digital Trade in ASEAN	Encourage and enhance digital trade through policy innovation, awareness raising and enabling electronic and other better modes of transactions and payments, especially for SMEs	<ol style="list-style-type: none"> 1. Study and identify enabling policies and best practices that will accelerate the development of e-commerce and digital service delivery in ASEAN 2. Identify best policies, industrial practices and case studies in the region that will benefit ASEAN businesses, especially SMEs 3. Raise awareness of digital trade and use of electronic payment among businesses so that they can better transact with their suppliers and customers, including online consumer protection
1.1.2 Develop a Consultative Approach towards Over-the-Top (OTT) Service Providers	Establish discussion platform for AMS to discuss areas of interest with OTT providers	<ol style="list-style-type: none"> 1. Commission a study to identify the opportunities and challenges of OTT services 2. Convene a dialogue with OTT players, regulators and other industry players, to discuss best practices towards OTT applications so as to enhance investment and innovation

Initiative 1.2 Increase the Use of Sustainable ICT in Public and Private Sectors *Encourage the use of sustainable ICT by the public and private sectors*

ACTION POINT	DESCRIPTION	TARGET/PROJECT
1.2.1 Identify and Adopt Appropriate Best Practices for Sustainable and Green ICT Use	Develop a portfolio of best practices in sustainable and green ICT; profile ASEAN examples for developing and adopting such technologies	<ol style="list-style-type: none"> 1. Develop best practices and regional guide for 'sustainable and green ICT use in ASEAN' 2. Review and further develop the AIM 2015 initiative on promoting green ICT growth for sustainable development in AMS



2. PEOPLE INTEGRATION AND EMPOWERMENT THROUGH ICT

Initiative 2.1 Strengthen Digital Inclusion in ASEAN *Implement programmes which will enable more ASEAN citizens to use ICT*

ACTION POINT	DESCRIPTION	TARGET/PROJECT
2.1.1 Create Initiatives to Address Emerging or Growing Digital Divides in ASEAN	Move beyond focusing only on connectivity, to identifying and supporting communities that are isolated or underserved; and focusing on increasing the demand, usage, affordability and connectivity of broadband services across ASEAN	<ol style="list-style-type: none"> 1. Define and identify 'isolated and underserved communities' 2. Develop recommendations for increasing broadband connectivity and improving affordability, taking into consideration past AIM 2015 initiatives 3. Identify basic digital services to be made available for communities and citizens in ASEAN 4. Profile case studies highlighting implementation and benefits of broadband in sectors such as health, education, energy, etc
2.1.2 Develop a Next-Generation USO ('USO 2.0') Framework	A USO 2.0 framework broadens traditional USO goals to focus on services access, delivery and usage, rather than merely connectivity, through the use of next-generation technologies (such as white spaces technologies, 5G networks, etc.)	<ol style="list-style-type: none"> 1. Sharing of best practices on 'USO 2.0' 2. Develop a policy toolkit for broader ASEAN USO deployment and administration
2.1.3 Develop Best Practices for Next Generation Telecentres	Enhance and develop the next-generation of telecentres which function as sustainable catalysts for smart and innovative communities	<ol style="list-style-type: none"> 1. Develop a definition for next-generation telecentres, including its quality, delivery and sustainability standards 2. Develop an 'ASEAN Telecentre Toolkit' for those who want to start and run a telecentre in ASEAN 3. Develop a quality management system or checklist for subsidised or supported telecentres



3. INNOVATION

Initiative 3.1 Promotion of New Technology and Policy Approaches

Equip ASEAN to promote the use of and benefits from new and emerging technologies

ACTION POINT	DESCRIPTION	TARGET/PROJECT
3.1.1 Develop Best Practice Guides and Standards for Smart City Development	Promote smart city development in ASEAN by establishing policy guides through profiling examples of city planning, physical infrastructure and technology innovation	<ol style="list-style-type: none"> 1. Share best practices on smart city planning and development in ASEAN 2. Identify suitable international and policy models and practices for smart city development, including in areas such as IoT, M2M, and sensor technologies 3. Identify, develop or adopt suitable standards for smart city developments, such as for IoT, M2M, and sensor technologies, and related policies 4. Explore the development of a measurement mechanism to track efficiencies in smart city management through ICT
3.1.2 Develop Guides and Applications for Open and Big Data	Support open and big data application development, including awareness building and education in standards, usage and development	<ol style="list-style-type: none"> 1. Establish a forum or platform for private sector to share developments and activities in big data management and analysis 2. Develop guides for standardising the type and standards for machine-readable open data 3. Support open data development through hosting of competitions where innovative uses and application of open government data is encouraged (e.g. a hackathon)
3.1.3. Monitor New Technology Developments and Trends	Identify, share and discuss new and emerging ICT issues	<ol style="list-style-type: none"> 1. Develop Centre of Excellence (CoE) collaboration by identifying CoEs and hosting networking events for them to meet and share ideas and experience 2. Create a virtual platform to collaborate with research partners and stakeholders to collate and distribute updates on new technologies and standards to TELSOM

Initiative 3.2 Promote Collaboration and Innovation Between Public and Private Sectors

Develop closer ties with the private sector to leverage synergies

ACTION POINT	DESCRIPTION	TARGET/PROJECT
3.2.1 Develop an Ecosystem Conducive to Support Start-ups and Strengthen Enterprises	Develop and promote a start-up ecosystem by connecting government, schools, and the private sector	<ol style="list-style-type: none"> 1. Study the existing start-up ecosystem of incubators, seed funders and venture capitalists in ASEAN 2. Develop platforms to connect start-up companies to potential private investors



4. ICT INFRASTRUCTURE DEVELOPMENT

Initiative 4.1 Fostering Broadband Access and Connectivity

Ensuring an ASEAN connectivity backbone is in place

ACTION POINT	DESCRIPTION	TARGET/PROJECT
4.1.1 Reduce Development Disparities in Access and Affordability to Broadband Access and Improving ICT Interoperability	Identify gaps in Internet access, affordability, and network interoperability	<ol style="list-style-type: none"> 1. Identify new digital divides, such as access and cost, brought about by new technologies 2. Mapping of priority locations (cities, provinces) requiring broadband deployment for private sector participation; host discussion to highlight opportunities for private sector participation in broadband development and deployment 3. Support IPv6 adoption by partnering with stakeholders to raise awareness of its importance
4.1.2 Promote Cooperation to Strengthen the Resilience and Repair of Submarine Cables	Develop a framework among all AMS to expedite repairs of submarine cables in their waters by minimising permit requirements and cost	<ol style="list-style-type: none"> 1. Convene dialogue with relevant stakeholders to identify key issues faced with submarine cable repairs in ASEAN 2. Develop a template for Service Level Agreements (SLA) for submarine cable repair 3. Develop a framework on expedited protection and repair of submarine cables and to increase the resilience of ASEAN's information hardware

Initiative 4.2 Develop Disaster Management and Response Frameworks

Increase resilience of ASEAN ICT communication networks

ACTION POINT	DESCRIPTION	TARGET/PROJECT
4.2.1 Develop Best Practices for Disaster Risk Reduction and Management System using ICT	Develop a framework on use of ICT for Disaster Risk Reduction and Management System based on established best practices and policies among all AMS	<ol style="list-style-type: none"> 1. Map areas of infrastructural resilience against existing warning sensors 2. Have disaster management and early-warning centres share their experience on sensor and infrastructure resilience 3. Develop success stories and case studies featuring how sensor deployment contributes to infrastructure resilience after a disaster, and identify technologies that work in a practical setting 4. Develop a framework on use of ICT for Disaster Risk Reduction and Management System based on established best practices and policies among all AMS

Initiative 4.3 Support Cloud Computing Development
Develop ASEAN's cloud computing environment

ACTION POINT	DESCRIPTION	TARGET/PROJECT
4.3.1 Establish a Model Cloud Computing Platform for Use by Private and Public Sectors	Develop a model cloud platform, along with guides on deployment and use	<ol style="list-style-type: none"> 1. Explore the development of a model Trusted Cloud Platform that may be used by public and private sectors in ASEAN 2. Develop cloud computing policy guides 3. Promote cloud utilisation in public and private sectors 4. Incentivise private sector cloud computing development by developing guidelines, recommendations and practices demonstrating use and deployment of cloud services securely



5. HUMAN CAPITAL DEVELOPMENT

Initiative 5.1 Building ICT Capacity and Capabilities, Particularly for Vulnerable Groups
Equipping all ASEAN citizens to be digitally-literate with basic ICT skillsets

ACTION POINT	DESCRIPTION	TARGET/PROJECT
5.1.1 Continue On-going Efforts to Narrow the Gaps Between Demand and Supply in ICT Human Resource	Identify necessary basic skillsets to be developed and delivered across ASEAN – plugging gaps by identifying priority groups, developing baseline skillsets, and targeting the needs of vulnerable groups	Initiate a programme for ICT Human Resource discussion within ASEAN between the public, private, and academic sectors, to enable statistical comparisons of demand and supply. The comparison will take into consideration various sectors in the ICT economy and the cross-border flows of ICT professionals in order to identify and address skill gaps across AMS

Initiative 5.2 Develop Common ICT Workforce Skills
Create standards through which the ASEAN workforce is ICT-literate and competitive

ACTION POINT	DESCRIPTION	TARGET/PROJECT
5.2.1 Continue Efforts to Align ICT Skill Standards for ASEAN	Promote an increasingly competitive ICT workforce through the establishment of standards and targeted skills upgrading to meet both current and future demand for ICT human resource	<ol style="list-style-type: none"> 1. Explore the development of baseline ICT skills and a reference document identifying 'Basic ICT Workforce Skills' in ASEAN 2. Review and enhance the ASEAN ICT Skill Standards Definition and Certification Framework developed under the AIM 2015 (e.g. including more specified ICT skill areas where necessary)



6. ICT IN THE ASEAN SINGLE MARKET

Initiative 6.1 Create a Conducive Environment for Businesses
Support the development of the AEC in ICT products and services

ACTION POINT	DESCRIPTION	TARGET/PROJECT
6.1.1 Facilitate and Grow ICT Investments into ASEAN	Promote the ASEAN market as a large and attractive investment destination for ICT, and nurture both the awareness and environment to facilitate such investments	<ol style="list-style-type: none"> 1. Identify messaging and platforms for communicating the strengths and growth potential of the ASEAN single market to global ICT vendors and service providers. Particular focus to be given to accelerating digital services development and delivery across ASEAN 2. Raise awareness of the ASEAN single market so that businesses can better engage with global suppliers and customers, including the sharing of ICT market information and regulations 3. Conduct ASEAN-organised trade delegations to specific ICT trade investment fairs to encourage investments in ASEAN. These are to be focused on both ICT and also on investments into ICT to support development in industries such as transport, health, education, as well as smart cities, etc
6.1.2 Promote the Lowering of Voice, SMS, and/or Data Roaming Charges in ASEAN	Promote affordable access to international mobile roaming services in ASEAN	Develop a framework to provide affordable intra-ASEAN mobile voice, SMS and/or data roaming services
6.1.3 Harmonize Telecommunication Regulations - Develop Guidelines for ASEAN Spectrum Regulatory Cooperation	Recognising the potential for cross-border spectrum conflict in light of new technologies such as unlicensed and dynamic spectrum allocation, this aims to develop a guideline, based on best practices, for managing such developments regionally	<ol style="list-style-type: none"> 1. Promote spectrum management harmonization in ASEAN (e.g. 700 MHz band, International Mobile Telecommunications (IMT) and related next versions) 2. Study spectrum usage for newly emerging technologies and strengthen cross-border spectrum management and coordination

Initiative 6.2 Promote an Open Market for ICT Enterprises/ Products
Proactively support the on-going liberalisation of the ASEAN market for ICT products and services

ACTION POINT	DESCRIPTION	TARGET/PROJECT
6.2.1 Nurture the Free Flow of ICT Products and Services in ASEAN	Develop a robust digital economy by nurturing a conducive environment for the free flow of ICT products and services	<ol style="list-style-type: none"> 1. Identify priority ICT standards so as to facilitate alignment of ICT technical standards across AMS 2. Conduct a study on the potential for an ASEAN single telecommunications market, including studying the various components and aspects of a single telecom market and indicating the 'readiness' across AMS



7. NEW MEDIA AND CONTENT

Initiative 7.1 Promote the Development of Media and Content Markets
Support and promote the sustainable development of an ASEAN content market

ACTION POINT	DESCRIPTION	TARGET/PROJECT
7.1.1 Encourage the Growth, Production and Use of New Media in ASEAN	Resource and leverage support for the production of new media and content, and encourage their growth and distribution	<ol style="list-style-type: none"> 1. Explore adding new categories to the ASEAN ICT Awards: <ul style="list-style-type: none"> (i) 'New Media and Content', focused on projects and products that take innovative approaches to the creation of local content (ii) 'Community Content' for content and apps that support community engagement and municipality services 2. Establish an engagement forum for AMS to dialogue with social media providers to discuss relevant matters (e.g. regulatory matters, responsible online practices, etc) 3. Encourage multilingual content by commissioning the development of language APIs and plugins to enable sites to offer content in English and major ASEAN local languages through machine translation, and have the ASEAN website available in major ASEAN languages
7.1.2 Develop Best Practices Guide for Local Content Development and Support	Share approaches to developing a thriving content market environment	Document best practices and develop guides for developing local content, including: <ul style="list-style-type: none"> • Developing favourable content environments • Funding development of local language packs for common CMS software • Helping local companies go to market • Helping local companies regionalise and distribute their content

Initiative 7.2 Nurture ASEAN Digital Society
Build an ASEAN online community

ACTION POINT	DESCRIPTION	TARGET/PROJECT
7.2.1 Develop Best Practices for e-Service Delivery	Provide best practice guidelines, which help agencies improve the standard and quality of e-service delivery	Develop a framework of expected minimum levels of e-services delivery by 2020, including best practices and recommendations guidelines for <ol style="list-style-type: none"> (a) Improvement of quality of service for common e-government applications, and (b) Cross-leveraging existing successes within AMS; taking into consideration past AIM 2015 initiatives
7.2.2 Develop and Foster Cyber Wellness through Guidelines, Education and Outreach Programmes	Provide actionable measures to relevant authorities across ASEAN to develop good online behaviours and etiquette, and to be able to respond to cyber bullying and cases of Internet abuse	Developing a focused model programme targeting education, advocacy, and engagement around cyber wellness, including: <ul style="list-style-type: none"> • Developing guides and promoting awareness on online risks, particularly to vulnerable groups (children, youth, less-abled), and how they should respond • Raise awareness and resilience to new threats and risks online (e.g. the rapid spread of misinformation, cyber-vigilantism and over-sharing of personal and corporate information) • Developing measures for child online protection, including communication channels to report 'harmful content' and online abuse to the relevant AMS authorities, with a focus on safety for children • Working with the community to establish online forums and exchange on cyber wellness and Internet abuse, with the goal of bringing together stakeholders' views • Sharing of information and data among countries on trends and challenges in the online space for greater mindshare in formulation of policies and programmes





8. INFORMATION SECURITY AND ASSURANCE

Initiative 8.1 Strengthen Information Security in ASEAN

Create a trusted ASEAN digital economy

ACTION POINT	DESCRIPTION	TARGET/PROJECT
8.1.1 Develop Regional Data Protection Principles	Promote data protection in ASEAN by establishing regional guidelines	1. Commission a study that compares personal data privacy protection frameworks across AMS. The study will identify current practices, develop case studies, and disaggregate issues across different levels – local, national, cross-border and ASEAN 2. Develop an ASEAN guideline or framework for personal data protection
8.1.2 Develop Regional Network Security Best Practices	Identify and develop baseline ICT network security principles and promote their use within ASEAN	Develop best practice guide for information and network security in ASEAN, including cloud computing
8.1.3 Develop Regional Critical Information Infrastructure Resilience Practices	Identify critical information infrastructures that have strategic imperatives and develop coordinated approaches to protection in the event of cyber-attacks	Commission a report to identify existing critical information infrastructures and suggest best approaches to coordinated protection and response

Initiative 8.2 Strengthen Information Security Preparedness in ASEAN

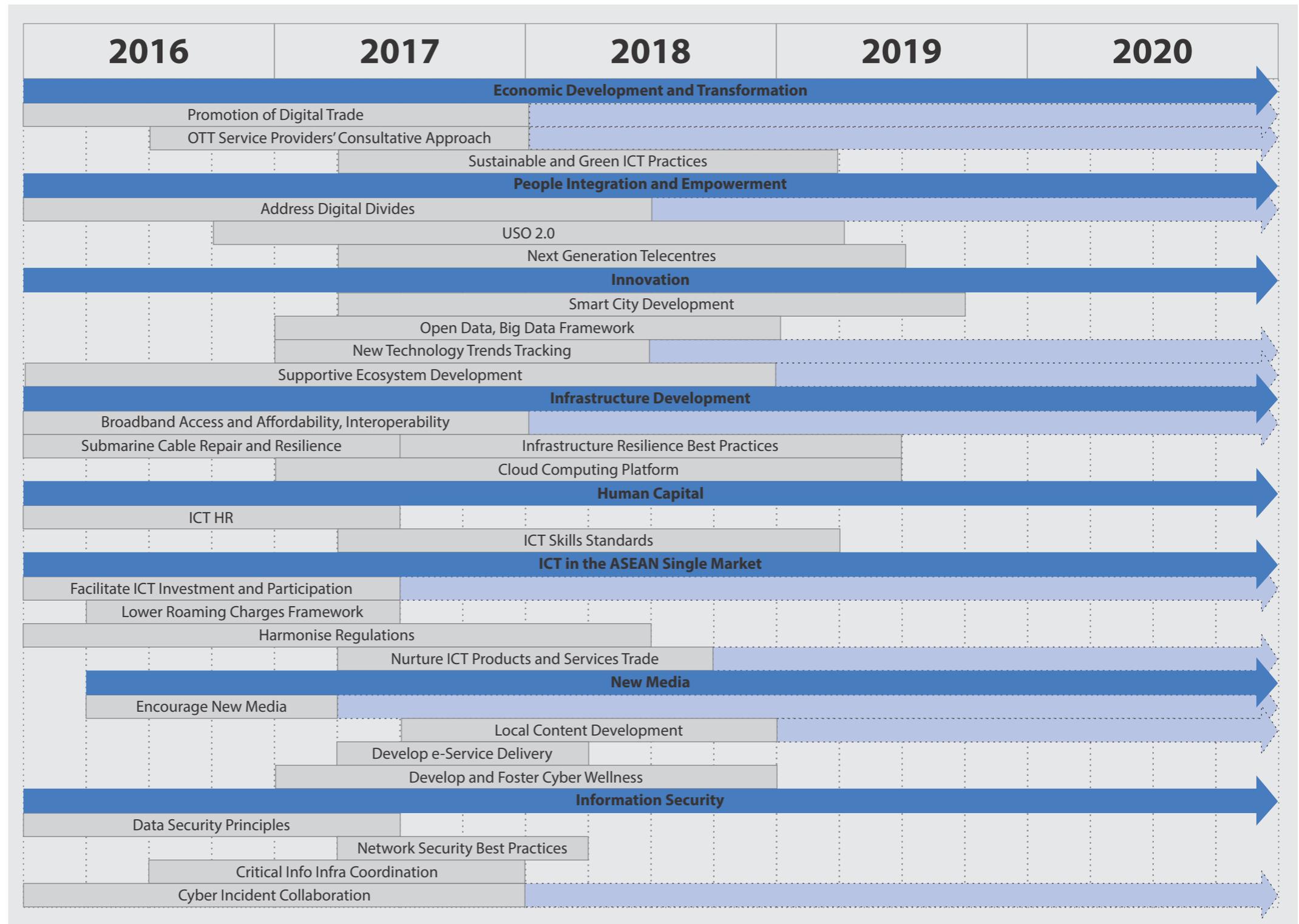
Improve cyber emergency responses and collaboration

ACTION POINT	DESCRIPTION	TARGET/PROJECT
8.2.1 Strengthen Cyber Incident Emergency Response Collaboration	Encourage cooperation to create a well-functioning network of CERTs to enable real-time responses to online security breaches	1. Conduct a feasibility study on establishing an ASEAN CERT, including looking at possible ownership models – whether by AMS government or through Public-Private Partnership (PPP) 2. Develop an Incident Reporting Framework, including templates and standardised responses to pre-identified 'threat levels' and attach types 3. Promote regular cyber security collaboration and dialogue between governments, business community and citizens through joint awareness-raising campaigns and the exchange of relevant materials

F. Implementation



The 2020 Masterplan is expected to be implemented from 2016 to 2020. Implementation will take into account the complexity, priority and resource availability of each of the initiative and action point. The proposed timeline is heavily loaded towards the first half of the 5-year calendar to allow for flexibility and the opportunity to conduct future refinements to further strengthen the objectives of the initiatives.



G. Conclusion

ASEAN stands on the cusp of a historic transition and ICT stands to play a transformative role in fostering an integrated and inclusive digitally-enabled community. A new era for ASEAN requires the successful implementation of a new ICT vision to address and inspire the growing aspirations of ASEAN citizens. To realise this new vision, however, it is important that the current Masterplan be carried out in a timely manner.

Transitioning successfully to a digital economy requires the participation, expertise and experience of different stakeholders. To this end, ASEAN is grateful to the ASEAN Dialogue Partners and other stakeholders who have participated and assisted in the first Masterplan, and looks forward to continuing these working relationships through the current AIM 2020.

ASEAN stands committed to ensuring that the challenges within this Masterplan are addressed in an effective, responsible and cohesive manner. Achieving these objectives will result in a digitally-enabled, inclusive and secure ASEAN.



APPENDIX A: On-going Efforts that will Continue from AIM 2015

A number of projects from the AIM 2015 have been incorporated into action items of the AIM 2020. This is particularly true of annual activities such as the ASEAN ICT Awards. Thus, while the ICT Awards continue on into the current AIM 2020, its activity will focus on expanding and refining its scope as its establishment had been completed under the AIM 2015 (i.e. the activity was not repeated in the AIM 2020 list of possible targets).

This Appendix captures the initiatives and actions that are still actively relevant in the AIM 2020 but are ongoing from the AIM 2015 with no additional need to call them out. They have been listed within the Strategic Thrust from the AIM 2020 that they now apply to. In some cases this will differ from the Strategic Thrust in which they were first categorised in the AIM 2015.

1. Economic Development and Transformation

Intellectual Property Protection and Promotion

Promote Intellectual Property Rights (IPR) at ASEAN Level to Safeguard Innovation	<ul style="list-style-type: none"> Promote IPR enforcement through sharing best practices, guidelines and frameworks across ASEAN to safeguard innovation Provide incentives for R&D efforts as well as to acknowledge, recognise and reward ICT experts
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Public-Private Sector Collaboration and Partnership

Facilitate Sharing and Exchanging of Business Information Amongst ASEAN Countries	<ul style="list-style-type: none"> Engage the business community to identify their ICT needs and requirements Leverage existing initiatives and nurture the development of content and applications to facilitate information exchange and accessibility to data Develop a conducive ICT environment for business
Share Various PPP Models and Practices Amongst ASEAN Countries to Formulate PPP Models for the Implementation of ICT Projects	<ul style="list-style-type: none"> Engage the business community to identify their ICT needs and requirements Leverage existing initiatives and nurture the development of content and applications to facilitate information exchange and accessibility to data Develop a conducive ICT environment for businesses

2. People Integration and Empowerment through ICT

Access and Affordability of ICT and Connectivity

Study to Lower Intra-ASEAN Roaming Charges	<ul style="list-style-type: none"> Analyse how intra-ASEAN roaming charges are derived and can be made cheaper to promote the use of mobile broadband across the region
Establish an ASEAN Broadband Corridor	<ul style="list-style-type: none"> Identify and develop locations in each AMS which offer quality broadband connectivity Enable seamless usage of broadband services and applications across ASEAN to further connect and enhance the development of ICT and other sectors Promote the diversity of international connectivity among AMS
Establish an ASEAN Internet Exchange Network	<ul style="list-style-type: none"> Establish a regulator-operator forum to develop a platform to facilitate ASEAN Internet traffic Facilitate peering amongst ASEAN Internet access providers to improve latency and speeds as well as lower costs
Review of USO or Similar Policies	<ul style="list-style-type: none"> Review USO or similar policies with a view to include IT components and training as part of USO funding Ensure that infrastructure covered under USO or similar programmes should be broadband Internet capable
Bridge the Digital Divide within ASEAN	<ul style="list-style-type: none"> Integrate and review current efforts to promote ICT access and adoption to bridge the digital divide Leverage on USO or similar policies Facilitate access to ICT devices such as laptops, smart phones and computers Provide sustainable measures (e.g. training) where appropriate Harness and maximise resources to leverage on best practice models to promote ICT adoption

Promotion of ICT Use in Education

Ensure Every Child has Access to Broadband Internet	<ul style="list-style-type: none"> Promote access to broadband Internet so that every child can remain engaged, connected and informed.
Create ASEAN ICT Scholarship Programme	<ul style="list-style-type: none"> Develop scholarship criteria and identify funding sources Encourage and attract ASEAN talents to make ICT their career of choice Support individuals with strong aptitude for ICT
Prioritise Roll-Out to Schools	<ul style="list-style-type: none"> Establish collaboration between ICT and education sectors to provide broadband Internet access to schools within ASEAN Include ICT as part of ASEAN school curricula to promote early ICT
Collaborate Between ICT and Education Sectors Within ASEAN	<ul style="list-style-type: none"> Provide comprehensive ICT training to teachers to encourage the use of ICT in education Establish ICT exchange programmes for teachers and students Promote joint collaboration activities to raise awareness of ICT



Development of Cyberkids Camp

Promote ASEAN Integration through Exposure to Different Cultures Within ASEAN at an Early Age	<ul style="list-style-type: none"> • Replicate the ASEAN Cyberkids Camp across ASEAN • Educate children to use ICT creatively and effectively beyond the school environment in an interactive manner • Encourage the positive use of the Internet • Create similar camps for teachers
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3. Innovation

Development of Innovation Centres and Centres of Excellence (CoEs)

Establish Network of CoEs	<ul style="list-style-type: none"> • Establish CoEs across ASEAN to promote R&D, innovation and transfer of technology • Connect CoEs to facilitate the exchange of ideas and promote greater collaboration amongst ASEAN ICT experts
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The CIO Forum and ASEAN ICT Awards

Launch the ASEAN CIO Forum	<ul style="list-style-type: none"> • Develop platform to promote sharing of best practices and collaboration among CIOs
Recognise and Reward ICT Innovators	<ul style="list-style-type: none"> • Develop ASEAN ICT Awards to promote creativity and encourage innovation • Provide incentives for R&D efforts to acknowledge, recognise and reward ICT innovators

4. ICT Infrastructure Development

Identifying Gaps and Bridging Disparities

Survey and Study to Identify Gaps and Determine e-Services to be Developed	<ul style="list-style-type: none"> • Identify relevant e-services to be developed, considering in particular the cost of such e-services and location of content • Nurture an environment to facilitate the development of affordable e-services
Provide Incentives or Grants to Promote e-Services and Content Development	<ul style="list-style-type: none"> • Develop criteria to provide incentives to develop ASEAN-wide e-services and content • Provide incentives to individuals and businesses to engage in e-services and content development
Improving IPv6 Rollout Through Collaborations	<ul style="list-style-type: none"> • Workshop for ASEAN ccTLD in the Adoption of IPV6 and DNSSEC in Domain Name System (DNS), 2011 - Malaysia • IPv6 Collaborations in ASEAN 2012 (Japan) - 2013, Thailand • Promote and encourage the deployment of IPv6 for small and medium enterprises (SMEs) - 2013, Viet Nam • Promote e-services that can be adapted for local usage

5. Human Capital Development

Skillsets and Capacity Building

Develop a Registry of Experts and Innovators	<ul style="list-style-type: none"> • Establish database of ICT experts and innovators within ASEAN • Forecast ICT manpower demand
Establish MRA for Skills Certification	<ul style="list-style-type: none"> • Develop ICT skill standards for ASEAN to ensure quality of ICT talents • Establish ASEAN ICT skills standard definition and competency levels in seven areas • Mapping of ASEAN ICT Skills Standard with the standards currently existed in countries within ASEAN to promote movement of ICT human capital within ASEAN
Develop ICT Certification and Skills Upgrading Programme	<ul style="list-style-type: none"> • Develop framework of skill upgrading and training roadmaps for ASEAN as a guideline for ICT skills upgrading and development • Execute Training course design in areas of Network Monitoring and Security Assessment

6. ICT in the Single Market

Develop a Framework to Facilitate Transparent and Harmonised ICT Regulations	<ul style="list-style-type: none"> • Harmonise regulatory practices and ICT standards
Collaborate with Relevant Ministries	<ul style="list-style-type: none"> • Develop platform within the ASEAN institutional framework to identify relevant content for different communities and sectors within ASEAN • Facilitate access and relevance of information to promote ICT adoption • Promote public education on ICT for community development

7. New Media and Content

Develop ASEAN Digital Content Exchange	<ul style="list-style-type: none"> • Develop platform to facilitate and promote the exchange of content – completed through the establishment of KL Converge, organised and led by Malaysia , which has established a yearly engagement forum
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8. Information Security and Assurance

Develop Common Framework for Network Security	<ul style="list-style-type: none"> • Establish common minimum standards for network security to ensure a level of preparedness and integrity of networks across ASEAN • Develop a network security 'health screening' programme for ASEAN to be implemented at regular intervals • Develop best practice models for business continuity and disaster recovery • Establish the ASEAN Network Security Council (multi-stakeholder) to promote CERT cooperation and sharing of expertise, amongst others
Develop Common Framework for Information Security	<ul style="list-style-type: none"> • Share best practices on the protection of data and information infrastructure across ASEAN

**APPENDIX B:
Acknowledgements and attribution**

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Front Cover
<http://www.iorise.com/?p=3977>

Section A. Towards a Digitally-Enabled, Innovative, Inclusive and Integrated ASEAN Community
<http://www.washingtonpost.com/sf/brand-connect/wp/enterprise/job-opportunities-abound-for-cybersecurity-grads/>
Image - ASEAN Community Commemorative Stamp image provided by Viet Nam MIC

Section B. Vision
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Section C. Outcomes
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<http://picsfair.com/technology-background.html>
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Section D. Strategic Thrusts
Photo: <http://www.edsantana.com/wp-content/uploads/2013/08/sun-through-green-forest.jpg>
Icon - Nick Frost <https://www.iconfinder.com/Gimpopo>

Section E: Strategic Thrusts, Initiatives, and Action Points
http://blogs.voanews.com/techtonics/files/2014/02/EDITED_Philips-lights-Vietnam%E2%80%99s-iconic-Dragon-Bridge-in-Da-Nang-with-sustainable-LED-lighting-solutions-a.jpg
Icon - Nick Frost <https://www.iconfinder.com/Gimpopo>

Section F: Implementation
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Section G: Conclusion
http://www.bodyinbalance.gr/sites/default/files/styles/large/public/wp-content/uploads/2014/11/iStock_000008506606Large.jpg?itok=6U3TBTA

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General information on ASEAN is available online at <http://www.asean.org>

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