

WE'RE STRONGER WHEN WE'RE CONNECTED.







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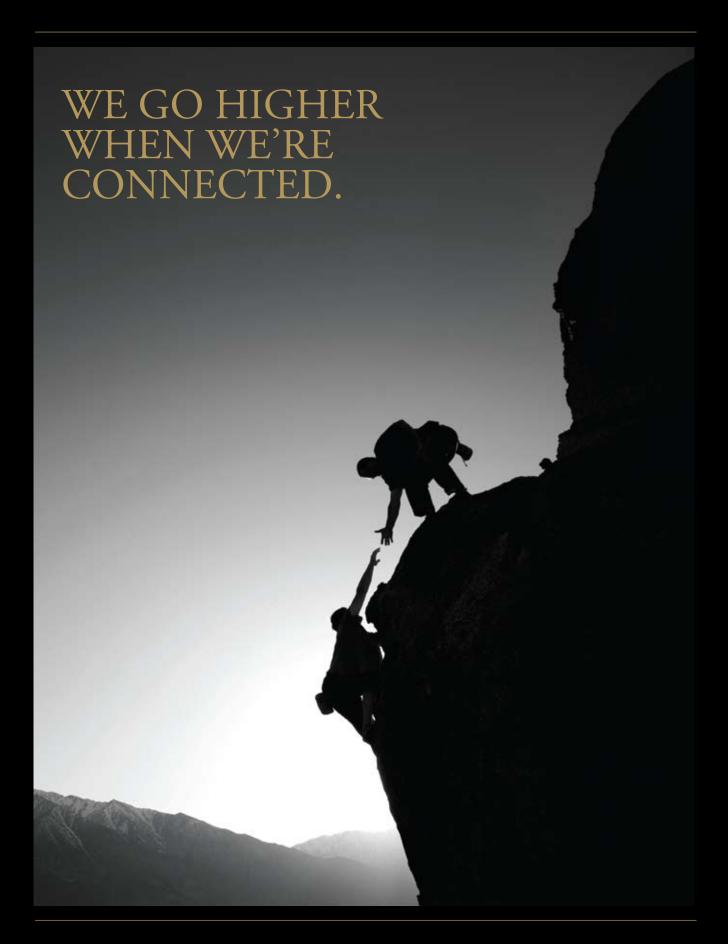
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- 1 Brunei Darussalam
- 2 Cambodia
- 3 Indonesia
- 4 Lao P.D.R
- 6 Malaysia
- 6 Myanmar
- Philippines
- 8 Singapore
- 9 Thailand
- Viet Nam



FOREWORD

This year marks ten years of ASEAN cooperation in the ICT sector. Over the last decade, ministers, policy makers, regulators and industry have come together to develop the ICT landscape within ASEAN. Whether we deserve to pat ourselves on our backs depends very much on which angle you are viewing our achievements. Collectively, we have decided that for now, a handshake may be sufficient to acknowledge the level of achievements we have met in the last ten years. With more than 500 million people calling ASEAN home, we certainly cannot afford to give ourselves pats on the backs whilst our citizens in many areas of ASEAN still do not have access to ICT.

However, this does not mean that ASEAN has not progressed in the ICT arena. On the contrary, more than 78% of our citizens are using ICT in various facets of their lives¹. Broadband internet is a reality in ASEAN and many ICT services and applications available in developed nations are similarly available across ASEAN. In at least five ASEAN Member States, mobile penetration has breached the 100% mark, with the other Member States rapidly making their way towards that mark².

The digital divide will continue to be a challenge in ASEAN. Insofar as resources are finite, what is important is that we integrate and harness our resources in order to employ the most cost effective measures to reach the widest audience possible in our efforts to provide affordable ICT access and increase adoption across ASEAN.

As we move towards 2015 when ASEAN will become a single community, much is being done to integrate our peoples, cultures and individual economies. Many sectors within ASEAN have already embarked on very practical approaches in order to prepare for 2015.

Similarly, the ASEAN Telecommunications and IT Ministers (TELMIN) have come together to chart our approach towards ICT development in the next few years. This needs to be done in an integrated manner to support the other sectors of the economy. We are fortunate to have the ASEAN Charter, ASEAN Economic Community Blueprint and Roadmap for an ASEAN Community to guide us in this effort.

Globally, ICT has been acknowledged as a key driver in economic and social transformation. It is therefore incumbent upon us to develop this Masterplan in order for ASEAN to harness the potential of ICT in establishing the ASEAN Economic Community. Much has been said about the correlation between higher broadband penetration rates and the increase in GDP. ASEAN very much subscribes to this. High levels of

investment are now being put behind developing broadband and next generation infrastructure to provide the best possible and affordable ICT access to our peoples and any interested parties wishing to establish a commercial or personal presence in this region.

TELMIN is committed to institutionalising ICT to empower and transform the lives of our peoples and our economy.

TELMIN is committed to meeting the ASEAN 2015 goals.

TELMIN believes that ICT has a key role to play in the integration of ASEAN at all levels.

Above all, TELMIN is confident that this Masterplan embodies the salient measures to propel ASEAN towards creating an inclusive, vibrant and integrated society and economy.

TELMIN welcomes and invites you to be our partner in the implementation of actions and measures outlined in this Masterplan. We very much hope that with your participation, we will be able to give ourselves pats on our backs in 2015.

THE 10th ASEAN TELMIN

INTRODUCTION: TOWARDS AN EMPOWERING AND TRANSFORMATIONAL ICT

It has been acknowledged that ICT will continue to be the driver in all aspects of nation building in the next few decades. Similar to other regions, ASEAN is poised to embrace the future riding on the wave of innovation and technology that has brought wealth and prosperity to this region in the last ten years. How we steer our ICT development over the next five years will greatly impact ASEAN, especially in the lead up to this region becoming an Economic Community in 2015.

ASEAN ICT Development To Date

ICT development in ASEAN has evolved at a phenomenal pace since its formative years. There is now a new era of ICT brought about by the advancement and application of ICT in almost every facet of our working and social lives. In ASEAN today, ICT is a growth industry sector employing more than 11.7 million people, contributing more than US \$32 billion or more than 3% to ASEAN's gross domestic product. This is projected to grow significantly by 2015.

ICT Transforming Lives

In an increasingly connected world, ICT today is also a transformation driver as it changes entire industries and powers new value chains. Studies have shown that every 10% increase in broadband penetration boosts GDP by an average of 1.3%, and every 10% increase in mobile teledensity results in a 0.7% increase in GDP. Convergence has created a new digital lifestyle never imagined a decade earlier. In this regard, ICT provides limitless opportunities for users to experience different ideas and cultures, and enables them to build a sense of awareness beyond their immediate surroundings.

In the last ten years, governments within ASEAN have invested greatly to build the infrastructure in order to provide access and increase adoption of ICT across the region. Although much has been done, there continues to be areas to be worked on. The target is to see an exponential growth in ICT adoption in this region in order to spur economic transformation. We believe that the key to this is to ramp up on infrastructure rollout and human capital development. Today governments are rolling out high and even ultra high speed next generation networks to cater for advanced services and applications offered today and in the future. Broadband is what people have come to expect. Broadband is what governments are still working towards.





WE CAN REACH OUR POTENTIAL WHEN WE'RE CONNECTED.



Bridging the Digital Divide

However, there remains a significant digital divide within ASEAN, as evidenced by ASEAN's 2008 mobile penetration rates which ranged between 1% and 138%. Although there are promising results for certain ASEAN countries, there is a lot more that ASEAN can achieve together. Rural populations must be guaranteed the same level of attention that urban populations seem to have received. Towards this, governments have gone to extensive lengths to ensure that the un-served and underserved areas and communities have access to ICT even at great expense. The challenge is to provide rural populations ICT services and applications at an affordable rate in order to boost penetration levels and bridge the digital divide within individual countries and across the region.

Enhancing Competitiveness

ASEAN can achieve greater competitiveness if it is able to leverage ICT collectively as a region. Whilst each ASEAN Member State strives to provide broadband infrastructure, collectively ASEAN must be able to remain competitive in order to attract its share of global investments. With a population of approximately 500 million, ASEAN is able to offer human capital which translates into a sizeable market to support the development of enterprises in various sectors of the economy. At the same time, ICT is a powerful enabler to achieve integration of ASEAN communities through comprehensive and pervasive adoption across the peoples of ASEAN.

View of Stakeholders

In developing this Masterplan, ASEAN consulted key stakeholders including industry, users and government agencies on priority areas for ICT development in the next five years. Generally, the feedback

received was very positive with stakeholders endorsing the need for the region to have an integrated approach towards the development of ICT to achieve the overarching ASEAN 2015 goals.

From the consultation, it was evident that the stakeholders were of the view that the top three priorities of the ASEAN ICT Masterplan are economic transformation, infrastructure development and bridging the digital divide. Other challenges raised by the stakeholders included the need to review regulatory approaches, encourage greater transparency and harmonise standards.

At this point in time, the most challenging barriers to entry were the high cost of entering the market and strong positioning of established competitors. Whilst acknowledged as being important, human capital related barriers were relatively less challenging. The top three human capital challenges are relevant skills, availability and costs. Conversely, other factors such as the movement of human capital within ASEAN were not of major concern to the stakeholders.

The ASEAN ICT Masterplan

ASEAN needs an integrated and strategic approach to achieve these outcomes. This ICT Masterplan will provide a clear plan of action for the next five years to ensure that we achieve our intended objectives. It encapsulates the articulation of a single shared vision driven by 6 strategic thrusts to deliver 4 key outcomes:

- i. ICT as an engine of growth for ASEAN countries
- ii. Recognition for ASEAN as a global ICT hub
- iii. Enhanced quality of life for peoples of ASEAN
- iv. Contribution towards ASEAN integration

VISION

ICT will be a key enabler for ASEAN's social and economic integration. By developing next generation ICT infrastructure and skilled human capital, promoting content and innovative industries, as well as establishing an enabling policy and regulatory environment, ICT will help ASEAN to transform into a single market. In doing so, ASEAN will empower its communities and advance its status as an inclusive and vibrant ICT hub, making ASEAN an ideal region for economic activities.

The Vision seeks to achieve the following:

1 Empowering

Equipping stakeholders with the right skills, technology, connectivity and information to harness ICT to its fullest

2 Transformational

Harnessing ICT to fundamentally change the way we live, learn, work and play

3 Inclusive

Involving all the stakeholders in ASEAN – government, citizens and businesses, developed and developing, rural and urban, young and old, as well as those with and without disabilities

4 Vibrant

Creating an environment that is innovative, entrepreneurial and exciting for ICT to flourish and succeed

5 Integrated

Connecting the people of ASEAN between its citizens, government and businesses

Outcomes

The Vision will yield four key outcomes which reflect how ASEAN will develop and transform economically and culturally:

1 ICT as an engine of growth for ASEAN countries

ICT will be one of the key economic sectors in ASEAN as well as an enabler to increase competitiveness for other industry sectors.

2 Recognition for ASEAN as a global ICT hub

ASEAN will distinguish itself as a region of high quality ICT infrastructure, skilled manpower and technological innovation.

3 Enhanced quality of life for peoples of ASEAN

The pervasive adoption of ICT will provide the peoples of ASEAN the means to be engaged, relevant and informed. This will have a profound impact on the way people live, work and play.

4 Contribution towards ASEAN integration

ICT will foster greater collaboration between ASEAN businesses and citizens, leading to integration of ASEAN.

Strategic Thrusts

There are six strategic thrusts – three pillars supported by three foundations. All six will lead to the achievement of the key outcomes.

1 Economic transformation

ASEAN will create a conducive business environment to attract and promote trade, investment and entrepreneurship in the ICT sector. ICT will also be the engine that transforms other sectors of the economy.

2 People empowerment and engagement

ASEAN will enhance the quality of life through affordable and equitable ICT.

3 Innovation

ASEAN will foster a creative, innovative and green ICT sector.

4 Infrastructure development

ASEAN will develop ICT infrastructure to support the provision of services to all ASEAN communities.

5 Human capital development

ASEAN will develop competent and skilled human capital in ICT to support the growth of the ICT sector and help transform other sectors of the economy

6 Bridging the digital divide

ASEAN will address the varying levels of ICT development and adoption within individual countries and across the region. ASEAN will also focus on bridging other gaps within the digital divide to promote greater adoption of ICT.



Towards an Empowering and Transformational ICT: Creating an Inclusive, Vibrant and Intergrated ASEAN

Pillars

1. Economic Transformation

- To promote trade, investment and entrepreneurship in the ICT sector, and build an ICT engine for sectorial transformation

2. People Empowerment

- & Engagement
- To enhance quality of life through affordable and equitable ICT

3. Innovation

- To nuture a creative, innovative and green ICT sector.

1





Foundations

4. Infrastructure Development

- To provide the next generation infrastructure backbone and enabling policies and legislation

5. Human Capital Development

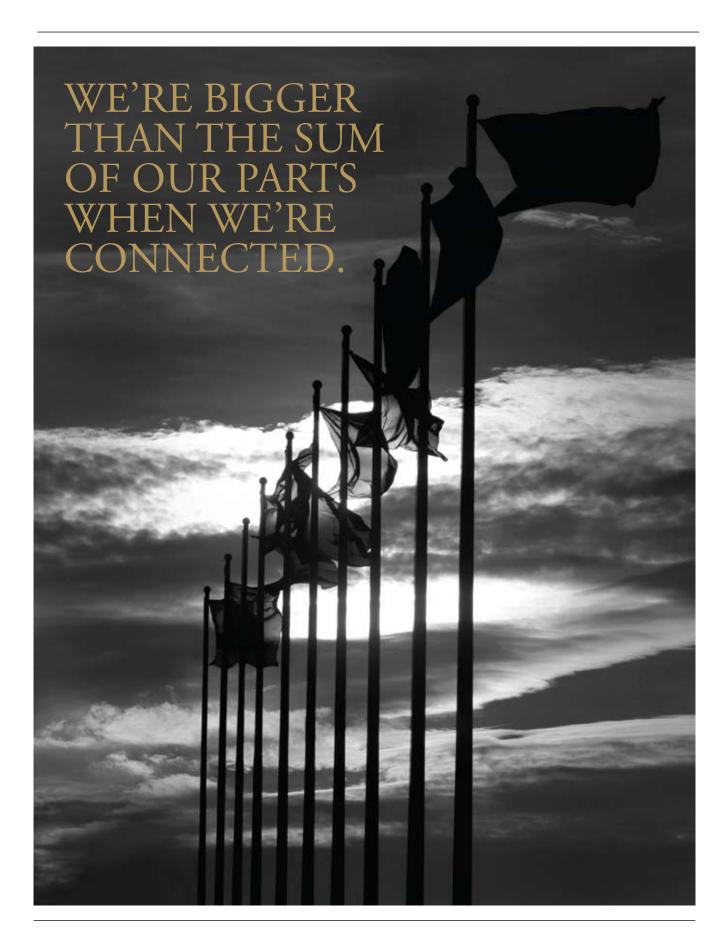
- To develop a skillful ICT workforce and knowledgeable community

6. Bridging The Digital Divide

- To elevate countries and people through ICT capabilities

Key Outcome

- ICT as an engine of growth for ASEAN countries
- Recognition for ASEAN as a global ICT hub
- Enhanced quality of life for peoples of ASEAN
- Contribution towards ASEAN integration



STRATEGIC THRUSTS

1: Economic Transformation

In this context the focus of Economic Transformation includes creating a conducive business environment in ASEAN that helps to attract and promote trade, investments and entrepreneurship in the ICT sector. It is also to leverage the investments in ICT to create an ICT engine that will transform the other sectors in the greater economy.

Initiative 1.1: Create a conducive environment where businesses can grow leveraging ICT

ACTION	DESCRIPTION
Facilitate sharing and exchanging of business information amongst ASEAN countries	 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
Develop a framework to facilitate transparent and harmonised ICT regulations	Harmonise regulatory practices and ICT standards

Initiative 1.2: Develop Public-Private Partnership (PPP) initiatives for the ICT industry

ACTION	DESCRIPTION
Share various PPP models and practices amongst ASEAN countries to formulate PPP models for the implementation of ICT projects	 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 Engagement and Empowerment

People Empowerment and Engagement focuses on the enhancement of the quality of life for all ASEAN peoples through affordable ICT. This is especially true in areas with low standards of living, where mobile and broadband services are considered luxuries.

Initiative 2.1: Ensure affordable broadband access to every community

ACTION	DESCRIPTION
Study to lower intra- ASEAN roaming charges	Analyse how intra-ASEAN roaming charges are derived and can be made cheaper to promote the use of mobile broadband across the region

Initiative 2.2: Ensure affordable ICT products

ACTION	DESCRIPTION
Enhance implementation of mutual recognition arrangements (MRAs)	 Ensure that all technical standards are in the ASEAN working language (English) Adopt common standards to reduce time- to-market for ICT products

Initiative 2.3: Ensure affordable and seamless e-services, content and applications

ACTION	DESCRIPTION
Survey and study to identify gaps and determine e-services to be developed	 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 Promote e-services that can be adapted for local usage
Provide incentives or grants to promote e-services and content development	 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

Initiative 2.4: Build trust

ACTION	DESCRIPTION
Promote secure transactions within ASEAN	 Develop mutual recognition arrangements for cross-certification of digital certificates within ASEAN Promote the use of two-factor authentication
Outreach campaign to promote awareness of cybersecurity	 Create public awareness through education about online security Forge joint collaboration with industry and other stakeholders Ensure personal data protection



3: Innovation

Innovation aims to develop a creative, innovative and green ICT sector in all countries in ASEAN. It challenges governments in ASEAN to create the policies and infrastructure (such as sharing of expertise between countries with different core competencies, thus enabling these pockets of expertise or centres of excellence to leverage on one another's expertise) necessary to foster creativity and innovation at all levels.

Initiative 3.1: Create Innovation Centres of Excellence (COE) for Research and Development (R&D) of ICT services

ACTION	DESCRIPTION
Establish networks of COEs	 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
Develop ASEAN digital content exchange	Develop platform to facilitate and promote the exchange of content
Promote Intellectual Property Rights (IPR) at ASEAN level to safeguard innovation	 Promote IPR enforcement through sharing of 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

Initiative 3.2: Promote innovation and collaboration amongst government, businesses, citizens and other institutions

ACTION	DESCRIPTION
Recognize and reward ICT innovators	 Develop ASEAN ICT awards to promote creativity and encourage innovation Provide incentives for R&D efforts to acknowledge, recognise and reward ICT innovators
Launch the ASEAN CIO forum	Develop platform to promote sharing of best practices and collaboration amongst CIOs

Initiative 3.3: Nurture innovation and creativity at schools

ACTION	DESCRIPTION
Ensure every child has access to broadband internet	Promote access to broadband internet so that every child can remain engaged, connected and informed

4: Infrastructure Development

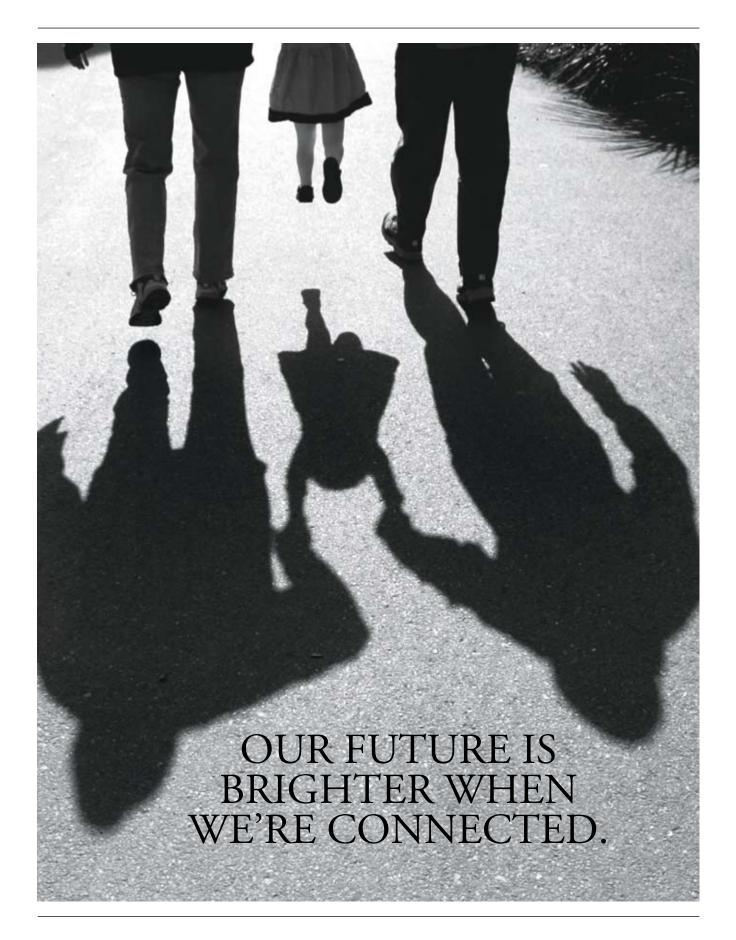
Infrastructure development is one of the three foundation thrusts recognized to be necessary for the successful implementation of the three thrusts mentioned above. In this context, the focus includes seeking to provide the infrastructure backbone to enable ICT services to all communities in ASEAN. Also, to put in place the required enabling policies and legislation to attract businesses and investments to the region.

Initiative 4.1: Improve broadband Connectivity

ACTION	DESCRIPTION
Establish an ASEAN Broadband Corridor	 Identify and develop locations in each ASEAN Member State 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 ASEAN Member States
Establish an ASEAN Internet Exchange Network	 Establish a regulator-operator forum to develop a platform to facilitate intra- ASEAN internet traffic Facilitate peering amongst ASEAN internet access providers to improve latency and speeds as well as lower costs

Initiative 4.2: Promote network integrity and information security, data protection and CERT cooperation

ACTION	DESCRIPTION
Develop common framework for network security	 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 for all sectors Establish the ASEAN Network Security Action Council (multi-stakeholder) to promote CERT cooperation and sharing of expertise, amongst others
Develop common framework for information security	Share best practices on the protection of data and information infrastructure across ASEAN



5: Human Capital Development

Human capital development is a foundation thrust that focuses on helping citizens in ASEAN to build the skills necessary to fully leverage ICT, enabling a competent ICT workforce and a knowledgeable community. This involves two main areas: ICT training and ICT skills certification.

Initiative 5.1: Build Capacity

ACTION	DESCRIPTION
Develop a registry of experts and innovators	Establish database of ICT experts and innovators within ASEAN Forecast ICT manpower demand
Create ASEAN ICT Scholarship Programme	 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

Initiative 5.2: Develop skills upgrading and certification

ACTION	DESCRIPTION	
Establish MRA for skills certification	 Develop ICT skill standards for ASEAN to ensure quality of ICT talents Promote movement of ICT human capital within ASEAN 	
Develop ICT certification and skills upgrading programme	 Adopt certification of ICT skill sets (e.g. certification of cyber-security experts and trainers) Promote marketability of certified ICT experts Develop a competitive ICT workforce through skills upgrading to meet the demand for ICT resources 	

6: Bridging The Digital Divide

The sixth and final strategic thrust is entitled "Bridging the Digital Divide". This thrust acknowledges that every country in ASEAN is on a different level of ICT development, and therefore focuses on closing the ICT development gap within ASEAN through a range of initiatives.

Initiative 6.1: Review of Universal Service Obligation (USO) or similar policies

ACTION	DESCRIPTION
Review of USO or similar policies	 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

Initiative 6.2: Connect schools and advocate early ICT education

ACTION	DESCRIPTION	
Prioritise roll-out to schools	 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 education 	
Collaborate between ICT and education sectors within ASEAN	 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 	
Promote ASEAN integration through exposure to different cultures within ASEAN at an early age	Educate children to use ICT creatively and	

Initiative 6.3: Improve access and relevance of information

ACTION	DESCRIPTION
Collaborate with relevant ministries	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

Initiative 6.4: Bridge the digital divide within ASEAN

ACTION	DESCRIPTION
Bridge the digital divide within ASEAN	 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

IMPLEMENTATION

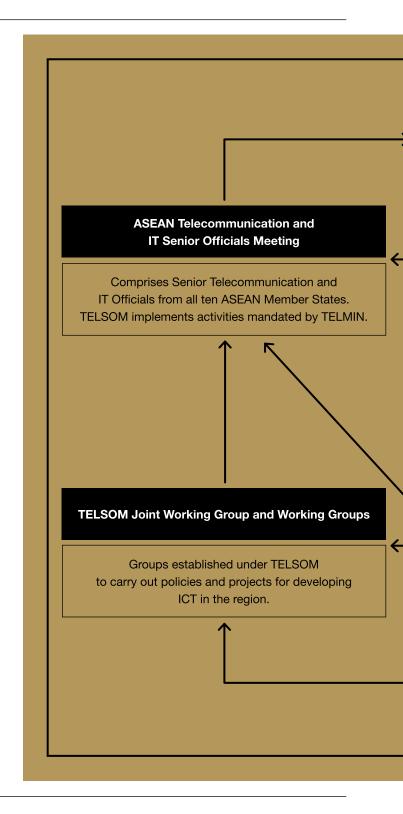
Governance Structure

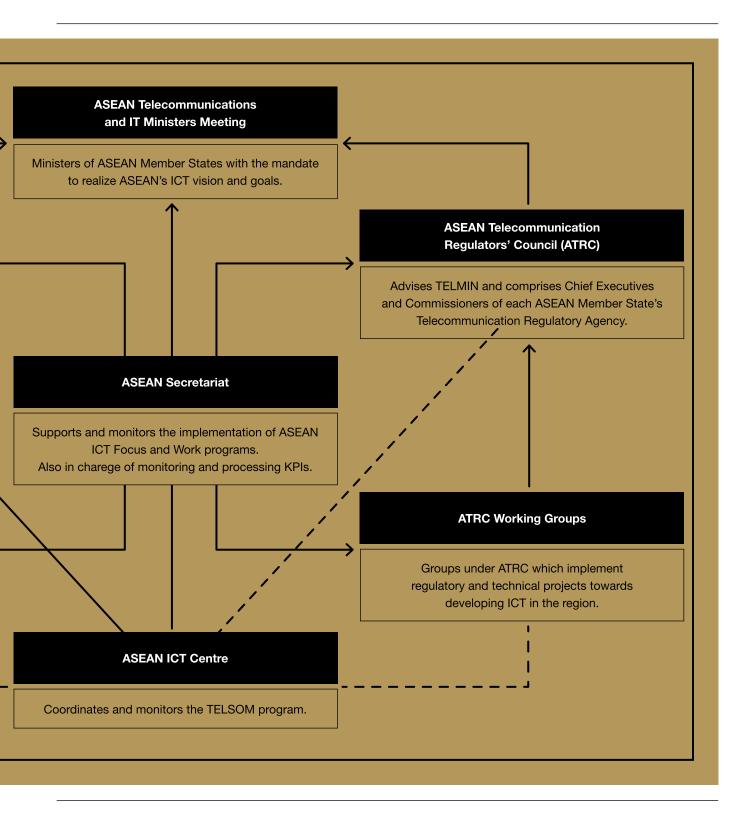
The governance structure comprises six entities that will work together to manage the various actions and initiatives in the ASEAN ICT Masterplan.

Financing

The Masterplan initiatives will be funded via existing ASEAN financing sources which include the ASEAN ICT Fund, ASEAN Dialogue Partners, International Organizations and other public or private institutions.

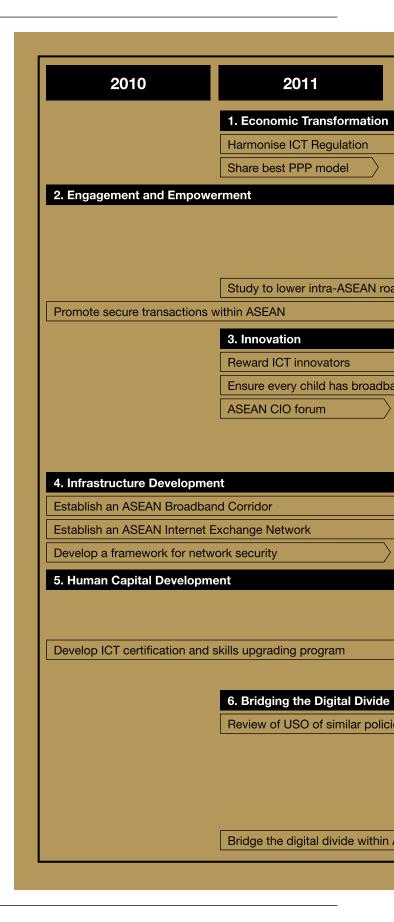
It is expected that individual ASEAN Member States will collaborate with the private sector through public private partnerships (PPP).





Timeline

The Masterplan is expected to be implemented within the next five years. As resources are finite, the implementation of actions and initiatives will have to take into consideration the priority and complexity of each initiative.



2012	2013	2018	2015		
	Share business data in ASEAN				
Identify e-services	Enhance implementation of mu	tual recognition arrangements	(MRAs)		
Incentives for ASEAN content					
Campaign to promote cyber se	ecurity				
ming charges					
nd access					
Establish network of COEs					
Develop ASEAN digital content	t exchange				
Promote intellectual Property F	Rights (IPR) at ASEAN level				
	,				
Develop common framework for	or information security				
	Registry of experts		\rangle		
	ASEAN ICT scholarship prograi	$\overline{\mathbb{I}}$			
Establish MRA for ICT skill cert	tification				
 S					
Prioritise roll-out to schools			<u> </u>		
	Collaborate between ICT and e	ducation sectors			
Promote ASEAN integration					
Collaborate with relevant ministries					
SEAN					

CONCLUSION

To realise the Vision, it is imperative that the implementation of this Masterplan be carried out in a timely manner, involving all stakeholders. More importantly, appropriate resources must be allocated. This Masterplan provides opportunities for new partnerships to develop the necessary ICT landscape which ASEAN requires in order to move into the era of an integrated economic community.

ASEAN is committed to ensuring that all challenges that are contained in this Masterplan will be addressed in a cohesive manner. Extensive investments into building the ICT infrastructure and environment in ASEAN will be required. In this regards, ASEAN looks forward to working with all interested parties towards achieving the Vision of this Masterplan.

When the Masterplan is fully implemented, ICT will become an engine of growth for ASEAN. ASEAN will be a global ICT hub and the quality of life of our peoples will be enhanced. Most importantly, it will pave the way for a more integrated ASEAN as one Community.





