ИННОВАТИКА-2016

СБОРНИК МАТЕРИАЛОВ

**XII Международной школы-конференции студентов,
аспирантов и молодых ученых
20–22 апреля 2016 г.
г. Томск, Россия**

Под ред. А.Н. Солдатова, С.Л. Минькова

INFORMATION COMPUTER TECHNOLOGY MASTER PLAN 2020 OF THE ASSOCIATION OF SOUTHEAST ASIAN NATIONS (AIM 2020)

Ph. Solinthone[1,2], T.B. Rumyantseva[1], V.I. Syryamkin[1]

[1]*National Research Tomsk State University, Russia*
[2]*Ministry of Science and Technology, Lao PDR*
Email: phonepaseuth.slt@gmail.com

ПЛАН ПО РАЗВИТИЮ ИНФОРМАЦИОННЫХ И КОМПЬЮТЕРНЫХ ТЕХНОЛОГИЙ В АССОЦИАЦИИ ГОСУДАРСТВ ЮГО-ВОСТОЧНОЙ АЗИИ ДО 2020 ГОДА

П. Сулинтхон[1,2], Т.Б. Румянцева[1], В.И. Сырямкин[1]

[1]*Национальный исследовательский Томский государственный университет*
[2]*Министерство науки и технологий Лаоса*

The article provides a brief overview of information and computer technology Master Plan 2020 of the Association of Southeast Asian Nations, studies the importance of information and computer technology and innovation for ASEAN countries. The article provides a brief introduction of ASEAN, presents an innovative, inclusive and integrated ASEAN Community analyses ASEAN ICT Vision, considers outcome of ASEAN ICT, and presents eight strategic thrusts.

Keywords: ASEAN, information and computer technology, Asia, Master Plan 2020.

The Association of Southeast Asian Nations (ASEAN) was formed in 1967 by Indonesia, Malaysia, the Philippines, Singapore, and Thailand to promote political and economic cooperation and regional stability. The ASEAN Declaration in 1967, considered ASEAN's founding document, formalized the principles of peace and cooperation to which ASEAN is dedicated. The ASEAN Charter entered into force on 15 December 2008. With the entry into force of the ASEAN Charter, ASEAN established its legal identity as an international organization and took a major step in its community-building process. The ASEAN Community is comprised of three pillars: the Political-Security Community, Economic Community, and Socio-Cultural Community. The ASEAN Member are Brunei Darussalam, Cambodia, Indonesia, Lao P.D.R., Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam [1]. The ASEAN Secretariat is based in Jakarta, Indonesia. With over 600 million people, ASEAN's potential market is larger than the European Union or North America. Next to the People's Republic of China and India, ASEAN has the world's third largest labor force that remains relatively young [2].

The first ASEAN ICT Master plan (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 [2]. 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, has 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.

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 goals.

To be digitally-enabled. It means development of programs for continual education and upgrading to equip ASEAN citizens with the latest infrastructure, technology, digital skill sets, information, applications and services.

To be secure. It means creation of safe and trusted ICT environment in ASEAN, providing reassurance in the online environment by building trust in online transactions via a robust infrastructure.

To be sustainable. It requires responsible and environmentally friendly use of ICT.

To be transformative. It means creation of progressive environment for the disruptive use of technology for ASEAN's social and economic benefits.

To be innovative. It means creation of supportive entrepreneurial environment that encourages innovative and novel uses of ICT.

To be inclusive and integrated. It means involvement of empowered and connected citizens and stakeholders [3].

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 marginalized, underserved and vulnerable communities have avenues for engaging and entering the digital economy.

Deployment of Next-Generation ICT as Enablers of Growth. In recognizing 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 utilize 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 [3].

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 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 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 recognizes 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 [3].

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 realize 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.

References
1. Overview of ASEAN. [Electronic resource]. – URL: http://www.asean.org/asean/about-asean/overview/ (Date of access 20.03.2016).
2. ASEAN Membership. [Electronic resource]. – URL: http://globaledge.msu.edu/trade-blocs/asean (Date of access 25.03.2016).
3. The ICT Master Plan 2020. [Electronic resource]. – URL: https://www.sbs.ox.ac.uk/cybersecurity-capacity/system/files/ASEAN%20ICT%20masterplan%202020.pdf (Date of access 28.03.2016).

ОСОБЕННОСТИ ОБРАЗОВАТЕЛЬНЫХ УСЛУГ И ФУНКЦИЙ ВЫСШЕЙ ШКОЛЫ В КОНТЕКСТЕ ГЛОБАЛИЗАЦИИ

М.А. Арзамасцева, М.В. Хайруллина
Новосибирский государственный технический университет
e-mail: mariaarzamastseva94@gmail.com

FEATURES OF EDUCATIONAL SERVICES AND FUNCTIONS OF HIGHER SCHOOL IN THE CONTEXT OF GLOBALIZATION

M.A. Arzamastseva, M.V. Khayrullina
Novosibirsk State Technical University